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ABSTRACT

Addressed to the directors, deans, and faculties of medical and other health-related schools, this booklet contains a detailed explanation of the meaning of community-based education. It opens with a brief account of trends in both industrialized and developing countries that have created a demand for health personnel capable of responding more effectively to community needs. The concept of community-based education is presented and discussed in terms of its underlying principles, its overall advantages, its organizational components, and the major problems and constraints facing implementation. Numerous practical examples are used to illustrate how the concept can operate in various training systems or situations where competence is acquired through close contact with real problems in the community. The remaining sections of the report set forth guidelines for implementing a community-based educational program. An outline of the various steps and approaches is presented together with recommendations on how to foster a broader understanding of the meaning and advantages of training programs closely linked to community needs. (YLB)

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Community-based education of health personnel

ED284014

Report of a
WHO Study Group

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WHO STUDY GROUP ON COMMUNITY-BASED EDUCATION OF HEALTH PERSONNEL

Geneva, 4–6 November 1985

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COMMUNITY-BASED EDUCATION OF HEALTH PERSONNEL

Report of a WHO Study Group

A WHO Study Group on Community-based Education of Health Personnel met in Geneva from 4 to 6 November 1985. The meeting was opened, on behalf of the Director-General, by Dr T. Fülöp, Director, Division of Health Manpower Development.

I. INTRODUCTION

An important policy of the World Health Organization is to foster the type of educational programme for health personnel that will make them responsive to the needs of the populations they serve, in order to achieve the goal of health for all.

Such training is most effective if it is carried out in close relation to the actual community in which the health personnel are later to work, or to one of the same type. It should be based largely in the community, or in any of a variety of health service settings. This concept is called community-based education.

The Study Group met to clarify the meaning of the term community-based education, to determine its implications, to suggest how to put it into practice, and to recommend ways of fostering it.[1]

That students should learn in an environment closely resembling that in which they are to work after graduation and that they should

[1] A survey was made of the literature and of unpublished descriptions of health profession educational programmes bearing some relation to community-based education, during which goals, definitions, characteristics, educational analyses, constraints and obstacles, and experiences in non-health sectors were reviewed. More than 100 references, dealing primarily with community-based education in medicine and nursing, were found and analysed in detail. Publications from all parts of the world were consulted but it is known that many such programmes have not yet been formally described; consequently, whenever additional information (e.g., from first-hand experience or through personal communication) became available it was used. Since authors, institutions, and publishers are selective in deciding what information to publish and as much information on educational programmes, especially if the experience is negative, is not reported, the results of the survey may give a more favourable impression than is warranted.

be more than passive receivers of information provided by teachers in lecture halls are both sound educational principles. For the majority their future work will not be in lecture halls or tertiary care medical centres. Regrettably, current curricula require most students in health and health-related fields to spend most of their time in such settings.

Community-based education is, therefore, not an end in itself but a means of ensuring that health personnel are responsive to the health needs of the people and of improving health care systems through the education of health personnel in both developing and industrialized countries. The overriding importance of the broader concept of community orientation should never be overlooked; it is a comprehensive approach for ensuring that health personnel can competently perform the tasks relevant to the health needs of populations.

2. DEFINITIONS AND EXPLANATIONS

There is no standard definition of the concept termed *community-based education* but various authorities provide working definitions of the features involved; a few of these are given below.

Community

Various definitions of what is meant by a community are given in dictionaries and other publications. Some imply homogeneity. For example, "The people living in a particular place or region and usually linked by common interests" (Webster's Third New International Dictionary); "The people of a country (or district) as a whole; the general body to which all alike belong; the public" (The Oxford English Dictionary); or "A group of individuals and families living together in a defined geographic area, usually comprising a village, town or city" (*15*). The Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978 defines a community as "People living together in some form of social organization and cohesion" (*59*).

The definitions of other authorities imply heterogeneity. For example, "Many communities are geographic only and have serious conflicts along class or other lines (religious, racial, etc.)" (M. Roemer, personal communication, 1985). In some countries each

social class, though living in close proximity to the others, has very different health priorities. In some descriptions the heterogeneity of the community is recognized: "The term should not refer to a cohesive, homoeostatic association of people but to a stratified arrangement of groups, interests and resources, some of them having more power and status than others. Considerable competition and even conflict is likely to be present in any given community and some change in the internal structure of communities may occur over time" (*65*).

More recent definitions incorporate a social component. For example, "The community is a social space in which the concept of meeting the needs of this group and its internal power will be incorporated for making decisions regarding the solution of its problem" (C. Ordonez, personal communication, 1985). K.L. White (personal communication, 1985) favours the term *population* rather than *community*.

As the object is not to provide one standardized definition of the term but to clarify its meaning, all these interpretations should be taken into consideration.

Primary health care

Primary health care as an approach to health development involves the total reorientation of the health system. Its characteristics are: (*a*) reorientation of the health services to enable secondary and tertiary care to support care at primary care level, the first level of contact, thus involving the entire health system; (*b*) a more even distribution of health resources, with more than at present allocated to primary care and its supervisory level, and to promotive, preventive, and rehabilitative care; (*c*) intersectoral coordination; and (*d*) the participation of the community.

Health personnel

In the present report the term *health personnel* means all the personnel involved directly or indirectly in health care, such as general and specialized medical practitioners, dentists, nurses, pharmacists, sanitary engineers, laboratory technicians, medical assistants, and community health workers.

Primary care level is the first level of access to the health system.
Secondary care level is the next level of the health system to which patients can be referred from the primary care level.
Tertiary care level is a more specialized level than secondary care and requires specific facilities and the attention of highly specialized health workers.

Community-oriented education

At the first meeting of the Network of Community-oriented Educational Institutions for Health Sciences, held in 1979, community-oriented education was described as education that focuses on both population groups and individual persons which takes into account the health needs of the community concerned (*60*). As many programmes that focus only lightly on the population and the needs of the community could claim that they fulfil this description, a degree of quantification is needed as well as consideration of some of the other characteristics of community orientation. These characteristics include: whether the aims, objectives, and basic principles on which the educational activities of the institution are based are determined by the needs of the community within which it is located; the extent to which the programme adopts a comprehensive rather than a mainly curative approach to health promotion; and whether programme activities indicate commitment to the goal of health for all.

Community-based education

Community-based education is a means of achieving educational relevance to community needs and, consequently, of implementing a community-oriented educational programme. It consists of learning activities that use the community extensively as a learning environment, in which not only students but also teachers, members of the community, and representatives of other sectors are actively engaged throughout the educational experience. Depending on how the population in a country is distributed, the learning environment may be an urban community, even though at present most of the people in developing countries live in rural areas. Indeed, community-based education can be conducted wherever people live, be it in a rural, suburban, or urban area, and wherever it can be organized.

Community-based learning activity

A community-based learning activity is one that takes place within a community or in any of a variety of health service settings at the primary or secondary care level. Community-based learning activities include:

(*a*) assignment to a family whose health care is observed over a period of time;

(*b*) work in an urban, suburban, or rural community designed to enable the student to gain an understanding of the relationship of the health sector to other sectors engaged in community development, and of the social system, including the dominance of special interest and elite groups over the poorer sections of the community or over women;

(*c*) participation in a community survey or community diagnosis and action plan, or in a community-oriented programme, such as immunization, health education of the public, nutrition, or child care;

(*d*) supervised work at a primary care facility, such as a health centre, dispensary, rural or district hospital.

Learning activities conducted in large-scale, specialized medical care facilities, such as hospitals providing tertiary care, cannot be considered as community-based activities.

Community-based educational programme

An educational programme, or curriculum, can be called community-based if, for its entire duration, it consists of an appropriate number of learning activities in a balanced variety of educational settings; i.e., in both the community and a diversity of health care services at all levels, including the tertiary care hospital. The distribution of community-based learning activities throughout the duration of the curriculum is an essential characteristic of a community-based educational programme.

3. THE RATIONALE OF COMMUNITY-BASED EDUCATION

3.1 A historical account

The concept of community-based education has become increasingly well-known during the past two decades as societal values have changed in the industrialized countries to focus more on human welfare (*58*). In developed countries, through the human rights movement, pressure increased for equal rights in all areas including health. More governments established social security and welfare programmes, thus acknowledging that all members of society, regardless of age or socioeconomic status, are entitled to good quality health care and that health is an important factor in community development. During the same period, developing countries came to realize that models of education from industrialized countries were not producing the sort of personnel who could fulfil their health care needs. The International Conference on Primary Health Care held in Alma-Ata in 1978 bore witness to the worldwide interest in promoting the concept of primary health care (*59*) and confirmed the need to reform health manpower development programmes (*20*).

The community-based education concept represents an important trend in current methods of education as a whole.[1] It involves the integration of education and productive work within the learning process and the participation of all those involved in the actual work. The idea was introduced into educational practice before the concept was recognized or the term coined. It is a product of evolving educational methods in general and of tertiary education in particular. At the same time it is a source of new ideas in the fields of educational policy, organization of education, methods of education, design of curricula, and other aspects of education.

A great deal of experience in community-based education has accumulated and has been described in the literature. To make the concept better understood, more comprehensive studies and more precise methods of evaluation are needed. Sufficient information

[1] The term used in the present report, community-based education for the training of health personnel, is called *study service* by other organizations involved in training. Several of the following paragraphs are adapted from a UNESCO publication on study service (*54*).

exists, however, to enable prospects for its future development to be determined and new benefits to be discovered.

Community-based education is associated with efforts to involve students and, more generally, educational institutions in national development and to combine theory with practice. Almost all countries have community-based educational programmes in which all types of social system and all levels of development are represented. However, they have been most successful in developing countries because of the benefit derived from the services of the students by both the country and the community involved, especially if it is in a remote or poor, suburban or urban, area where the services are needed most.

3.2 Underlying principles[1]

To be effective a community-based educational programme must fulfil certain conditions and conform to certain guiding principles, such as the following:

(*a*) The students' activities should relate to planned educational goals and objectives; both the students and the teachers must have a clear understanding of the purpose of the activities and the expected results.

(*b*) The activities should be introduced very early in the educational experience.

(*c*) They must continue throughout the educational programme.

[1] Recommendation No. 73 adopted by the International Conference on Education at its thirty-eighth session, Geneva, 10–19 November 1981 was addressed to the ministries of education and concerned the interaction between education and productive work (*53*). Three of the eight underlying principles set forth in the recommendation are quoted below:

"1. There should be effective and continuing interaction between education and productive work, in the sense of production of material and intellectual goods and services that are useful to the individual or to society, not necessarily in return for remuneration, and taking account of the training contribution of the productive sector itself."

"2. Efforts to establish such interaction, . . . should emphasize the interdependence between theory and practice, the place and significance of productive work within the framework of social, aesthetic, cultural, economic and individual values . . ."

"3. Action to establish, reinforce and promote such interaction at different levels of education may include the introduction into educational curricula and programmes of provision for creative and productive activities, or their further development, and for participation in socially useful activities or actual practical work within or outside the educational establishments."

(*d*) They must be viewed not as peripheral or casual experiences but as a standard, integral, and continuing part of the educational process.

(*e*) The students' work during training must be "real work" that is related to their educational needs, and also forming part of the requirements for obtaining a degree.

(*f*) There is a marked difference between the objectives of a community-based educational programme and those of traditional field work. The students are fully exposed to the social and cultural environment and thus come to understand the important elements of community life and the relationship of these elements to health-related factors and activities. The programme must be of clear benefit to both the student and the community. This implies that the community must be actively involved in the educational programme.

3.3 Six reasons in favour of community-based education

Participation in community-based educational activities:

(1) Gives the students a sense of social responsibility by enabling them to obtain a clear understanding of the needs of a local community and the problems it and the country as a whole are facing. They also come to understand how health and other factors that contribute to community development are interrelated.

(2) Enables the students to relate theoretical knowledge to practical training and makes them better prepared for life and their future integration into the working environment, while improving their productivity. Opportunities for employment on graduation and career prospects are enhanced. They are better able to manage their careers and, at the same time, to recognize and resolve the types of problem that require a multiprofessional approach.

(3) Helps to break down barriers between trained professionals and the lay public and to establish closer communication between educational institutions and the communities they serve. It allows the students to become more closely integrated in the life of the community and actively involved in its development.

(4) Helps to keep the educational process up to date by continuously confronting the students with reality, a very important factor in development. It also helps in clarifying and finding solutions to problems. In this way education contributes to development.

(5) Helps the students to acquire competency in areas relevant to community health needs while utilizing only the health service facilities that are available. For example, in some communities there is no university hospital, and in others the services provided by the ministry of health may be insufficient to provide an adequate quality of care. Experience has shown, however, that students educated under such conditions can still become efficient health workers.

(6) Is a powerful means of improving the quality of the community health services. Evidence exists that the use of health service facilities, particularly rural and urban health units, for educational purposes leads to their improvement.

3.4 The organization of community-based educational programmes

A clear organizational design is needed to create a community-based educational programme that embodies the principles and definitions already discussed. Such a programme must frequently and repeatedly recall the community-related aspects of the competency being acquired.

A very small number of educational institutions for health personnel offer community-based educational programmes. Of those, apart from the programmes of the small number that are members of the Network of Community-oriented Educational Institutions for Health Sciences, only a few meet most of the requirements (Z. M. Nooman, personal communication, 1984; *7, 14, 24, 26, 28, 30, 31, 36, 37, 38, 41, 42, 43, 46, 47, 51, 52, 55,*). From the results of a survey of the medical education programmes in one industrialized country it was concluded that although at least 66% of medical schools offered some form of undergraduate experience in family practice, most did not utilize more than two types of setting, namely, family practice outpatient clinics and private physicians' offices. At some schools this type of experience was elective and while in about 66% of cases it was organized in continuous blocks of time the duration of each block was often quite short (*56*). Many other programmes offer a weekly half-day or one-day experience over a period of time. Seldom does the total experience exceed the equivalent of eight continuous weeks of full-time community work.

Some community-based educational programmes in developing countries have concentrated on immersing one student, or a group of students, in a small community where they can work directly with

the people on specific projects (O.K. Alausa, personal communication, 1985; *7, 8, 10, 13, 26, 48*). The students are given responsibility for health-related activities in the community early in the programme. Responsibility enhances motivation for learning and work satisfaction.

In most of the programmes, the activities are run by a university administration or an educational institution and benefit from the participation of teaching staff. However, the nature of the teachers' participation varies considerably. They perform a variety of tasks. Some brief students before they take up work in a community or decide on their assignments and how they are to be supervised; others initiate activities, visit the communities where the students are working, and negotiate and coordinate activities at the administrative level. Others act as technical advisers to programmes or as the coordinators of activities.

In most programmes the teachers visit the students during their assignments in the community. It is generally recognized that students are better inspired and more motivated when their supervisors work with them. Ideally, they should stay with the students throughout the learning experience. In some cases no incentives are offered for the participation of teachers in such schemes; the moral compensation is considered to be sufficient. In other cases, the teachers receive an honorarium, out-of-pocket expenses, or the cost of transport. Sometimes the teachers are offered moral, academic, or economic incentives.

3.5 Major problems and constraints

The design of a community-based educational programme and the most acceptable manner of relating it to the objectives and policies of the educational system and integrating it within the existing structure present difficult problems. The information needed to help to define the various components and requirements involved could be obtained through comparative studies of the diverse solutions developed so far, and an intensive exchange of experience.

Since community-based education is based on the practice of health care and thus requires the close collaboration of health and educational administrations, integrated policies need to be outlined through interministerial and interinstitutional consultation and coordination.

It can be difficult to develop a community-based educational programme within a conventional system of education. Teachers are often not willing to give up part of the curriculum time devoted to their particular discipline to enable the students to obtain an appropriate balance of community-based experience. In designing the curriculum, the proper integration of that experience presents a formidable challenge (*5, 11, 32, 45, 64*). New educational institutions for health personnel may have to be created, a separate track added to conventional curricula,[1] or changes made at established institutions (*34*).

In the planning of programmes and their material and administrative organization, the question of resources arises and how to mobilize them. Funding, for example, is of prime importance but as the concept of community-based education is a relatively recent development, it is usually uncertain and improvised. Many positive results provide evidence of the success of the concept but it is, at present, competing with difficulty for scarce financial resources for education. Students should not be remunerated for participation. They must, however, be given an allowance adequate to compensate for extra expenditure during their time in the community, e.g., on travel and subsistence. They may also need insurance and health insurance coverage, equipment, and educational materials. Staff and materials are also required to manage both the programme and the transport and communication facilities between the communities and the educational institutions that issue the policy instructions. No programme should be allowed to become stale and unattractive and thus counter-productive. It is important also that the entire learning process and the institutional involvement should be programmed as one entity; the community-based component should not be seen as separate or apart from the other components.

Some difficulties are connected with the specific situation existing in certain countries, especially developing countries. The physical characteristics of some countries, where many communities are isolated or in remote areas, complicate social and economic difficulties. Logistic difficulties can be expected and, indeed, are often encountered: if the communities used are in remote areas,

[1] A conference on *Parallel innovative tracks in established health science institutions: a strategy for disseminating change*, organized by the Network of Community-oriented Educational Institutions for Health Sciences, with the collaboration of the University of New Mexico, USA, and WHO, was held in October 1986.

transport, communication, and housing problems can arise even in a developed country. Most community-based educational programmes are faculty-intensive—often one teacher to one student—which limits the number of students who can participate at one time and strains faculty resources (*15*).

The problems of planning, the need to coordinate the activities of the many services and facilities involved, the shortage of staff qualified to direct and supervise, and the need for the students to be assisted with their learning activities, are all major obstacles to the success of a community-based educational programme. Because it is important that the teachers should serve as models for the students, those selected must have the correct qualifications and efforts must be made to retain their services. There are too few health personnel who can teach in a community-based educational programme. Indeed, it was the shortage of health personnel in some communities that first gave rise to the concept of community-based education. Health personnel who do practise in communities have often, from necessity or choice, separated themselves from academic work and sometimes do not wish to undertake teaching duties. To ensure that they were capable of teaching would necessitate special training in educational methods (*11, 15, 16, 49, 64*).

Problems, not peculiar to community-based education, are related to the apprenticeship nature of health personnel education. Although all those involved in community-based educational programmes recognize their value, resistance to the concept and to putting it into practice has to be counteracted. Some academics believe that the intellectual quality of the students' studies is placed in jeopardy by the obligations of being involved in community service activities, even on a voluntary basis, because they regard education as the disinterested pursuit of knowledge. Some believe that the study of human problems and their solutions should be the subject of postgraduate education when the student is more mature. The educational purpose of a programme and the responsibilities to the community of the services used in the training can produce discord. Health service staff serving as instructors are obliged to give to the students the time they feel should be devoted to patient care.

The personal nature of the relationship between the health service staff and the members of the community (a feature emphasized in community-based education) often makes it difficult for the students themselves to establish a direct relationship. In addition, the inexperience of the students may affect the quality of the health care

received. That there is a risk of the quality of both patient care and the education given to the students becoming diminished is not confirmed in practice (*11, 40*). It has been shown that community-based educational programmes are a powerful means of upgrading the quality of health services (Z.M. Nooman, personal communication, 1985; *41*). The fact that the students are young and open-minded can even mean that they are at an advantage in relating to the patients in the community, who find it difficult to express their feelings to a more senior health worker. There is no evidence that community-based education lowers the quality of patient care.

Studies indicate that the students themselves evaluate community-based education highly; they enjoy the experience and learn aspects of medical care that cannot be learnt elsewhere (*9, 18, 44*). In one study the students who later chose a career in primary care rated the experience more highly than did other students (*5*).

It could be argued that, since students learn from experience, the earlier they begin actual professional practice the better, and that they seem to find this method more motivating than a programme restricted to academic studies. It is felt in some communities, however, that there is very little an inexperienced student can contribute; and some administrators consider that the extent to which a community-based educational programme can contribute to progress in a community's effort to improve its quality of life is insignificant.

Other difficulties stem from the educational process itself and relate to organizational problems and traditional modes of thought. They are connected with the nature of the programme, the assessment of community problems, the choice of activities and tasks, the balance between periods of study and periods of service, the effort involved in planning student participation, and the methods used to evaluate the programme on the basis of its objectives. Evaluation of the students' achievement also causes problems. Difficulties can be encountered in supervising the administration of the programme and evaluating it and, in some instances, stricter evaluation procedures are advocated. Control can also be a problem. The more remote the site of a community-based learning activity the less control can the educational institution have. The situation will vary according to site, student, and instructor, making it difficult to assess student performance systematically and thus verify that each one's experience is comprehensive and that there is consistency (*40*).

Another issue is how to incorporate the assessment of student performance during community-based education into the educational institution's evaluation system.

A further important issue is whether community-based education has the effect of increasing the number and quality of health personnel practising at primary care level and ensuring their more equitable distribution. Studies reported in the literature fail to draw a conclusion (*18, 35*). Others suggest that, while educational experience can affect a student's decision on where to practise later, background and attitude towards the geographical area being considered are more important factors in making the decision (*12, 22, 50*).

A recent comparative study involving ten institutions belonging to the Network of Community-oriented Educational Institutions for Health Sciences demonstrated that the influence of each institution on the health care system of the area it served was positive (*43*). There was an increase in the number of health personnel and in primary care services; more health personnel were attracted to the region because of the institution; the quality of hospital care had improved at all levels; government health policies had begun to change to incorporate the primary health care approach; health education of the public had intensified; the education of health personnel was influenced through interaction with more traditional programmes and participation in national advisory groups; the capabilities of the graduates were comparable or superior to those of graduates of more traditional institutions and they had superior ratings in problem-solving and self-learning skills, self-evaluation, interpersonal communication skills, team-work and community orientation; and more graduates were choosing to practise at primary care level (see the analysis in Annex 1).

A few institutions reported that more graduates were entering family practice or that there were more family practitioners in the areas where they were located (*2, 50*). In one study it was found that 75% of the nursing students placed in the community had been offered posts in the same community and that about half of them had accepted (*3*). In several community-based educational programmes it was demonstrated that students in preceptorships or clerkships with local practitioners saw more patients or more representative groups of patients than their counterparts in traditional programmes (*2, 21, 39, 40*).

One of the most interesting features of community-based education is that innovative measures can easily be introduced as community problems and circumstances change, with the result that some educational systems become less rigid and the prospects for a continuous renewal of the educational process greater. Hitherto untried educational possibilities are thus brought to light in the search for relevance to community needs.

3.6 Quantitative and qualitative considerations

With students spending a few weeks in community-based learning or with a local practitioner, many programmes could claim to be community-based. Obviously a degree of quantification is needed even though the qualitative aspects are clearly more important.

For that reason data were collected from 15 institutions (see Annex 2), all of which, except for one (institution no. 19), claim that their programmes are community-based. The data were analysed to discover whether quantification alone could provide a means of identifying genuine community-based educational programmes. The ratio of percentage of time devoted to community-based learning activities to percentage of time devoted to tertiary hospital-based learning activities, assuming the activities are of the same quality, does not permit a valid conclusion to be drawn. All other analyses —whether the ranking is by percentage of community-based learning activities alone, of tertiary hospital-based learning activities alone, of tertiary hospital-based activities and attendance at lectures, of tertiary hospital-based activities, laboratory and practical work, and attendance at lectures, or of all the educational activities listed in Annex 2—show a wide range of rankings. Only for institutions no. 18 and no. 19, which are last in all rankings, can a meaningful conclusion be reached. Institution no. 18 claims to have a community-based educational programme; institution no. 19 does not.

The methods used in carrying out the analysis may not have provided the data that best characterize the educational programmes of the institutions included in the study. Trying to assess the educational activities of institutions with different approaches to learning on the basis of the amount of time allocated is of questionable value. There is an urgent need for more detailed qualitative studies.

4. THE PRINCIPLES AND ISSUES

Community-based education is a means of implementing a community-oriented educational programme. In order to provide qualitative criteria for determining the extent to which a programme is community-based, it will first be valuable to examine the general principles, processes, and interacting issues.

4.1 Educational principles and issues

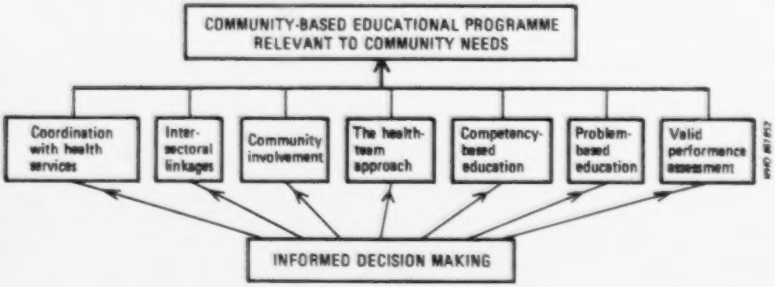
Certain basic principles apply equally to community-based education and other curricula for the education of health personnel. Thus, the design of a community-based educational programme should ensure that it:

(*a*) responds to priority health needs, concentrating on the health problems prevalent in the community;
(*b*) relates to all the needs of the individual;
(*c*) promotes health education of the public to a high degree with the aim of fostering community self-reliance in the protection and promotion of health;
(*d*) has as a basis an explicit statement of the professional competence expected to be achieved, through the tasks to be performed, from which to derive learning objectives;
(*e*) fosters problem-solving abilities, i.e., how to detect problems and propose solutions;
(*f*) promotes the idea of "learning how to learn" both during and after basic education, and an ability to confront uncertainty, which will lead to educational self-reliance;
(*g*) is community oriented throughout its duration;
(*h*) takes into account the individual needs of the students;
(*i*) includes instruments for the assessment of each student's competence in the skills that should have been acquired;
(*j*) encourages the health team approach.

In order to be able to plan a community-based educational programme qualitative information must be available on a number of issues, e.g., the degree to which educational planning has been carried out in coordination with the health services, how well intersectoral linkages are functioning, the mechanisms that exist for ensuring community involvement, the importance given to

encouraging the health team approach, to what extent competency-based and problem-based approaches are used, and whether the performance of the students is measured in a valid way. Fig. 1 re-emphasizes the need to have reliable information available on all these issues in order to be able to develop an educational programme that is relevant to the health needs of the community (see Annex 3).

Fig. 1. Issues for consideration in relation to community-based education



4.2 Coordination between the health system and the educational system

Community-based education requires coordination between those responsible for health manpower development and those responsible for the health services.[1] This is a crucial matter, with many implications. Organizational patterns may vary. The health system and the educational system may be separate, controlled by the ministry of health and the ministry of education or higher education. Or for the purpose of training health personnel the ministry of health may also be responsible for education. Another possibility is for both to be merged under a single administration (Table 1) (*41*).

[1] Health services and health manpower development (HSMD) is a means of ensuring effective coordination between health systems and manpower development (*19*).

Another variation is related to the degree of centralization. The planning, administration of resources, etc., of both systems can be either centralized, decentralized, or regionalized, e.g., health policy-making centralized and its application decentralized.

Finally, the health system or the educational system may be fully or partially nationalized, with a mixture of state, private, and charitable institutions, and health and social insurance schemes. In some countries one system, or both, may consist largely of private enterprise.

Depending on the circumstances, the coordination mechanism will be either easy or less easy to conceptualize and implement. The fact that developmental activities are often segregated within each system will affect the degree of coordination feasible. For example, in a country where the ministry of health supports the primary health care approach a local health officer may criticize, or not support, a programme not supervised and directed by the health department and not subject to his professional guidance. Sometimes the conflicts are interdepartmental. Clearly, there are many means of achieving coordination, each with advantages and disadvantages. In practice, success appears to depend more on the personalities of the personnel concerned than on the structures within which they operate.

An example of coordination is when an educational institution responds to a request from a local health service administration to run a training programme specifically designed to suit local needs, or to monitor and revise a training programme on the basis of a continuing exchange of information derived from assessment of the performance of graduates after they have commenced work in the health services (V. Ermakov, personal communication, 1985).

Another example of coordination is an exchange of staff between the health and educational systems. It helps the teachers if they can experience direct contact with the community and it gives health service staff a chance to undertake research. It improves the quality of learning materials and the selection of topics for research through consultation with health workers experienced in extracting principles from daily activities and interpreting them in the search for solutions to health problems. With this type of coordination the areas where it can be most effective should be defined. Very often the criteria used by the health system and the educational system for quality of health care differ. The types of educational activity that could benefit from coordination between those responsible in each

system need to be defined. It is possible that the activities could be categorized as those where coordination is definitely needed and those that could go ahead without it. In that way an entire range of community-based educational activities could form part of a continuum and those responsible for the education of health personnel need not be prevented from implementing some of the community-based educational activities that require little coordination.

Since information, particularly at the periphery, is usually incomplete or missing, planners in both systems have to agree on the kind of information needed from the health services by both the students and the teachers in a community-based educational programme.

There are areas with insufficient or no health service coverage. In such cases, agreements need to be entered into that stipulate how the educational institution can assist, even temporarily, in providing health care in marginal areas; such arrangements could be used as a basis for community-based education. In some cases the health services may be so understaffed that no one is available to take responsibility for coordinating community-based educational activities. Sometimes, an educational institution adopts an area, or several areas, where it provides health care and initiates health development, using the resources of both the institution and the community. In the beginning all that may be required is for the educational institution to obtain the agreement of the health service administration that it should cover one or more areas for health services. This could later become a more functional linkage between the educational institution and the health services.

In other cases, the community's needs and problems may be such that, given some guidance and support, it can manage them adequately when the educational institution ceases to provide the health care. Since, however, the strategies adopted will differ from community to community, the learning objectives of the students at any one time or level of training will also differ. (See section 4.4).

When the arrangement is one in which the organizational and structural relationships function well between those responsible for health manpower development and health services activities and if, moreover, one person is responsible for both, community-based educational programmes are greatly facilitated. However, there can be inherent or potential drawbacks. Vested interests cannot be ignored. One person may be in charge but it must not be forgotten

that subordinates are still working for either the health service or the educational system. A true partnership, to the extent that subordinates hold joint appointments in health and education and receive suitable incentives, would foster professional pride through identification with a common goal (Table 1). The source of funding and the amount apportioned from each system would have to be considered.

Table 1. Community-based education with one person responsible for health manpower development and health services activities

Drawback	Likely level of origin	Recommended remedial approaches
1. Greater emphasis may be given to health manpower development than to health services activities, or vice versa.	Planning	Establish an advisory body, by contract if possible. Obtain a clear understanding and acceptance of the nature, targets, role, responsibilities, limitations, and complementing relationships of each system vis-à-vis the achievement of a common goal.
	Implementation	In addition to the above-mentioned approaches, initiate a scheme for the periodic monitoring of activities, the dissemination of resulting information, and the sharing of views and inbservations between the representatives of both systems.
2. Difficulty may be experienced in maintaining functional coordination, since the health service and the educational institution, especially if it is a university, will usually not be under the responsibility of the same ministry.	Implementation	Prepare a policy statement and guiding principles to apply to the programme from managerial to implementation level. Ensure that thorough orientation is provided on the philosophy, objectives, and mechanisms of the programme to which the joint efforts are directed, followed by periodic sensitization measures. Create a partnership, with equal representation from the staff of both systems, with a view to consensus in decision-making.
3. The health service may not consider a task it is given to be of priority and will not respond enthusiastically.	Implementation	Ensure that the educational institution provides logistic suport and incentives to the health service.
4. Individuals may have difficulty, because of lack of commitment and not understanding their roles and responsibilities, in accepting that the results of their work are not what they have always been used to.	All	Delineate functions and responsibilities clearly. Encourage appreciation and acceptance of the "multiple causality" of problems in management and an understanding of the team concept. Encourage the team spirit.

Table 1 *(continued)*

Drawback	Likely level of origin	Recommended remedial approaches
5. There may be resistance from those with vested interests, and professional jealousy, mainly on the part of health service staff, who resent the "academic aristocracy" and subscribe to the traditional "we do", "they preach" attitude.	All	Give the health service staff a feeling of belonging, e.g., an academic title in order to implant a feeling of professional pride and importance. Arrange for the health service staff to be given a reward for teaching by the educational institution, e.g., the university. Create an atmosphere of partnership.
6. Financial support may lack continuity because there is no clear commitment from either system.	Planning	Come to a clearly defined agreement for a given duration, and reconsider it after a reasonable implementation period.

So far, for a variety of reasons, financial, material, and manpower resources have been allocated mainly to tertiary health care, and to a lesser extent to secondary health care. With the acceptance by all WHO Member States of primary health care as the key to attaining an acceptable level of health care, the imbalance is expected to change and consequently to favour community-based education. Most institutions will need to reassess priorities and appoint staff who can apply the concept of community-based education. Funds will have to be reallocated within the health personnel educational system. The widespread adoption of community-based education for the training of all grades of health worker would mean that posts would become available for different types of teacher. However, any approach to the widespread introduction of the concept is likely to provoke resistance from those with vested interests.

Political commitment is always necessary. Experience has shown that when government interest is lacking the best motivated scheme will fail for want of continuing support.

In the less developed countries, sustained cooperation from international sources is required for the widespread introduction of community-based educational programmes, keeping in mind the fact that the cooperation will be gradually phased out and thus self-reliance must be promoted.

The Beersheva experience: a regional health university[1]

The founders of the Center for Health Sciences and Services, Ben Gurion University of the Negev, Beersheva, Israel, envisaged a new institution that would bring the health and educational systems into more harmonious coexistence. This implied that the educational system would be invested with responsibility for searching for new models of health care delivery, in addition to its traditional role of developing new theories and models of molecular biology and expert clinical performance.

At Beersheva responsibility for the comprehensive medical care of an entire community in a large region was merged with responsibility for the education of health manpower at various levels. The region, which is over 15 000 km² in size, half the territory of Israel, has a population of 300 000, of whom 210 000 originally came from Africa and Asia and 50 000 are bedouin, some of whom are very poor. The Center comprises four schools—medicine, community-oriented allied health professions, health administration, and continuing education. When it opened in 1974 it was given a dual mandate: firstly, to unify all health services in the Negev region into one integrated system providing comprehensive health care through the rational use of organizational, financial, and manpower resources; secondly, to merge the activities of the integrated health system with those of the system responsible for the training of manpower, in order to produce physicians, nurses, and other health personnel of high professional competence who were, at the same time, attuned to the needs of the community and willing to work in hospitals and at the primary care level. The implication of such an integration was that the academic community could improve the quality of the health services, while health manpower training was firmly anchored in all facets of community health care.

To achieve the goal of integrated health care, a regional consortium was established and granted a charter. It consisted originally of the health-related agencies operating in the Negev—the Kupat Holim Sick Fund (the health insurance system of the General Federation of Labour),[2] the Ministry of Health, and the Ben Gurion University of the Negev. Its purpose is to ensure effective communication among the various agencies and to provide a regional framework for the coordination, administration, and sharing of resources. The Dean, Faculty of Health Sciences, Ben Gurion University of the Negev, serves as director of the consortium and chairman of the regional health authority. Recently, an important Jewish welfare agency joined the consortium, making community health care more comprehensive by adding the dimension of social welfare and consumer participation.

A network of model primary care clinics is gradually becoming a community-based counterpart to the clinical facilities of the teaching hospital. The scope of

[1] From a paper by Dr M. Prywes.

[2] The Kupat Holim Sick Fund provides a range of health services for the Negev region. It administers the 750-bed regional Soroka Hospital and outpatient department at Beersheva, a small hospital at Eilath, and a network of 160 community health clinics, 35 of which are in Beersheva and other sizeable towns and the rest in rural areas. The Ministry of Health maintains a 400-bed mental health hospital, outpatient clinics, and maternal and child health centres and is responsible for sanitation and epidemiological surveillance.

the clinics extends beyond the provision of curative services, which was their main function in the past. Greater emphasis is now placed on prevention, on the continuity of care throughout the various phases of illness, and on outreach programmes to meet those needs of the community that are less than effectively served within the confines of traditional health care. The slogan of the Center is "All who serve teach and all who teach serve" and the staff employed by the health services and the educational system are becoming accustomed to the collaborative nature of their functions. Academic titles are granted to primary care physicians and community nurses. Thus real partnership has evolved through appointing staff with joint academic and service responsibilities and introducing an appropriate reward system. Identification with the precept that health care should respond to community needs is being encouraged as a means of cultivating professional pride in community health work. Of the first batch of 30 graduates in medicine 21 volunteered to serve for at least one year in a primary care clinic before starting residency training and, in 1981, 18 of those decided to work in clinics in the Negev. In all, 59 of the 135 graduates of the first four classes followed this pattern achieving more in four years by their participation than was achieved in the seven years prior to 1980.

The barriers that separate the university from the service institution, the hospital from the primary care clinic in the community, and the basic scientist from the clinician, continue to exist because of inertia. The creation of a regional consortium to achieve cohesion is a significant step in overcoming the inertia. In the 12 years of its existence the innovation at Beersheva has acquired direction and momentum.

The consortium, fulfilling a Utopian dream that has become a reality, has not always functioned as well as it should. Some of the agencies involved have not always been fully committed in word and deed to the concept of merging academic and service responsibilities. Even when agreement has been reached at the highest national policy level, local employees and organizations with their own plans and habits have frustrated directives. Despite such setbacks, collaboration between the educational system and the health services in the Negev has become a reality and is taking root in other parts of the country.

The dean of the Center realizes (as did the founding dean before him) that his dual function as head of the health services and head of the health sciences faculty constitutes the main source of power. He considers control of the health services to be the overriding factor in matters relating to the university and the faculty. Many of the problems that confront the medical school at the Ben Gurion University of the Negev resemble those encountered at medical schools in other parts of the world. The experience at Beersheva demonstrates that effective cooperation between the health and educational systems may be difficult but is not impossible.

4.3 The intersectoral approach (*63*)

Intersectoral action is one of the main components of the primary health care approach (*59, 61*). It is therefore necessary to consider how it can facilitate or impede community-based education.

The Declaration of Alma-Ata states that "Primary health care involves, in addition to the health sector, all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food, industry, education, housing, public works, communications and other sectors" (*59*).

The education and training of health personnel has been based mostly on intrasectoral rather than intersectoral action, of which there has been very little practical experience. Very few of the innovative institutions established in the last decade have dealt with the issue (see Annex 1) yet it is evident that community development, especially its health component, will hardly be possible without sustained coordinated intersectoral action.

As a first step in preparing policy guidelines, interministerial consultation and coordination is necessary for the purpose of:

—determining which sectors are engaged in community development activities that might affect health;
—specifying requirements for intersectoral action in educational planning, implementation, and evaluation;
—suggesting how an awareness of the advantages of using the intersectoral approach for the achievement of health objectives might be fostered in decision makers responsible for education;
—suggesting how educational institutions for health personnel might be strengthened and their curricula reoriented to allow them to prepare manpower of the competency necessary to function effectively in an intersectoral context;
—illustrating the potential of intersectoral action by assessing and comparing national experience.

For example, within a political or administrative unit—a region or several provinces—the directors and key officials of different ministries, services, and agencies might form a development council or similar body to formulate plans, policies, and strategies for the coordination of community development activities, so that:

—they may all draw information relating to a particular community from a common data bank;
—communities that wish to send their staff to be trained know the institutions that have courses for various categories of peripheral community health worker;
—the structures or organizations needed in the community for various developmental activities are monitored, maintained, and

periodically strengthened in order to sustain the activities that contribute to self-reliance.

To make such intersectoral coordination possible there must be political commitment from the highest national authority.

A strong community organization, to which the different sectors could relate, would ensure successful implementation and continuity. It would prove to the different sectors the community's determination to work for health development through deeds rather than words. Its task would be to bring clearly defined current problems to the attention of the relevant sectors with requests for early action and persistent follow up with each one.

It should be understood that a continuous and long-term process is involved in the attainment of intersectoral coordination and that the degree of coordination fluctuates. One organization must assume the role of advocate for intersectoral action in health and be able to approach higher authorities for support in its implementation. The organization assuming that role—e.g., the ministry of health—must make careful preparations. It must ensure coordination within the health sector if it wishes to establish credibility with the other sectors. Those responsible for coordination within the ministry must familiarize themselves with the relevant policies and programmes of other health-related sectors and be prepared to determine the specific issues it should address with each of those other sectors. Close links with universities must be developed as they are essentially multisectoral (*62*, *64*). They could promote intersectoral coordination by giving their faculty joint disciplines to teach (e.g., health and agriculture, health and architecture, or health and engineering).

Health development, as an integral part of general development, is an area where intersectoral action could bring forth most positive results. Each government sector has its own mandate and prepares its budget according to the planned programme of activities for fulfilling that mandate. By reviewing each sector's programme of activities it becomes possible to determine those that are of direct concern to, or have an influence on, health. Coordination among sectors means that each one can use its own resources to the best effect or even achieve certain of its own aims which, through lack of coordination with other sectors, it has not been able to achieve in the past.

An intersectoral approach in Botswana[1]

Botswana has an estimated population of one million, of which 80% live in the rural areas. The National Health Institute, affiliated to the University of Botswana, trains staff for the health services. Manpower development is not, however, confined to the National Health Institute; other divisions, such as the Family Health Division, Primary Health Care Department, also train staff, in conjunction with the National Health Institute and under its supervision.

In general, communities do not relate their health problems to particular sectors; undernutrition, for example, is not seen as a health, agriculture, or social welfare problem but simply as a problem.

Regrettably, extension health workers tend to bombard communities with occasionally conflicting information on different aspects of the same problem at different times. Many separate issues, for example, have a bearing on health and nutrition, such as community development, social welfare, agriculture, education, the role of women, and the role of local government.

To reduce this tendency to compartmentalize, an attempt was made to introduce an intersectoral approach to health development, and to train certain groups to participate more fully and effectively in health promotion. To that end, in 1978, the Family Health Division introduced training programmes for different groups of students.

One such group comprises students being trained in community development and social welfare, who devote more than 24 weeks of their studies to health topics. As extension health workers, their activities must obviously include a health component. They therefore need intellectual and communication skills that will enable them to support health personnel by delivering the same health messages; they must avoid giving the community conflicting messages. They should also be sufficiently competent not to lose credibility with community members if they are left alone in the absence of health staff. During their training they learn about community diagnosis, data collection, data analysis, problem identification, and how to help the community in devising ways to solve its problems and in planning, implementing, following up, and evaluating health activities. Their learning activities include participation in meetings, seminars, or workshops to discuss problems identified in consultation with community leaders, the dissemination of information, and contacting the right people to deal with the community's health problems.

Another example of the intersectoral approach is in the training of schoolteachers. To ensure that health topics are taught at elementary and secondary schools, teachers are trained in how to integrate them into all subjects in the syllabus, including mathematics if possible. When teaching agriculture, for example, aspects of nutrition can be introduced; health problems can be related to whatever is being discussed in English class; and biology lessons can include instruction on reproduction and family life, with guidance on the controlled spacing of pregnancies and avoiding teenage pregnancy.

The intersectoral approach has also been introduced in the training of prison and police officers. It is particularly important in countries were health personnel and other resources are scarce, as one way to enhance health development.

[1] From a paper by Mrs W.G. Manyeneng.

4.4 Community involvement[1]

Community involvement in the decision-making for community-based education is essential. Students cannot use the community as if it were material in a laboratory. Close collaboration is necessary with community representatives and, whenever feasible, community members. The issue for discussion is how to enlist the community's cooperation in bringing its involvement about.

Management of the educational process is concerned with community diagnosis, the setting of objectives, the selection of methods, the formulation of plans, the preparation of teaching material, the implementation of planned activities, the administration of staff and students, the organization of the use of time, and the evaluation of activities. It covers all aspects of the planning, realization, and evaluation of educational activities.

A most important point to determine is who should participate in educational decision-making. A study of various instances of community involvement shows that, in addition to teachers, administrators, and students, the following may contribute and participate:

—voluntary organizations, e.g., professional associations or associations of university graduates;
—organizations representing different sectors or social classes of the population;
—youth and religious organizations;
—industrial and commercial undertakings;
—community leaders;
—ordinary members of the community (individuals and families).

Types of community participation or involvement

Three types of community involvement are described. The first, sometimes referred to as nominal or passive, amounts to no more than a one-way flow of information to a community through the members attending meetings or receiving information. There is no genuine involvement. It is often reported that there are many participants in an activity, mere attendance at a meeting being wrongly equated with participation.

[1] Adapted from references *1* and *33*.

The second type of involvement is consultation. The community is not only informed but reacts and expresses opinions. This is a fairly low level of involvement since those who are taking part are not necessarily the decision-makers. The consultation should be two-way, especially when it is between professional educational administrators and the community. To ensure involvement, certain conditions are necessary. They include; (1) a genuine guarantee of freedom of expression and association; (2) a means of ascertaining the effects of expressed opinions and decisions; (3) a means of making the information it requires available to the community for critical analysis; (4) a basic level of education for self-expression and the formulation of problems; (5) sufficient time to examine information; and (6) a political will on the part of decision-makers to take the opinions derived from consultation into account. In many cases, these minimal conditions are not present.

The third type of involvement implies the sharing of power. The questions that then arise relate to the extent of the community's power and whether legal means or regulations exist that enable it to insist on its point of view being taken into consideration. What is implied, for example, when it is indicated that the community has been associated with a decision; what voice does it have in a decision-making body; and to whom or to what does it have recourse? The conditions described above as being necessary for consultation are equally valid for this type of involvement which, in some instances, often of limited duration, may give rise to a tendency for self-management, in which case the community takes the decisions.

Depending on the community's degree of initiative, its involvement can be classified into three categories:

- *spontaneous or voluntary*, which occurs rarely and for a limited duration, when a social group itself takes the initiative to participate in the administration of a system, a programme, or an educational activity;
- *induced*, the most common form of involvement, which results from experiments, reforms, or innovations initiated by the administration rather than the community;
- *compulsory*, which usually takes the form of mustering the community for manual labour or to make a financial contribution, and is not educational administration in the strict sense.

Resistance to community involvement

Attention needs to be given to the attitudes and approaches of administrations to community-based education and community involvement. Since decentralization is a prerequisite for effective community involvement, not only must communities be educated and encouraged to run their own affairs but administrations must recognize their right to do so. Often government policy supports decentralization, with community involvement and local decision-making, but local officials, while claiming to endorse the policy, either purposely or unwittingly do everything to oppose it. Just as the local privileged classes can sabotage activities that may deplete their power, so administrations, themselves power groups, may resent what they perceive to be an erosion of their control and authority. Educating the community for community involvement is often easier than persuading administrators to accept it as a component of a health or educational strategy.

It could be asked why the community cannot itself initiate action to increase its involvement, without endorsement from above. Resistance to such an approach is always strong, however; even with the primary health care approach proclaimed as policy, health officials resent innovation without their sanction.

The conflict of professional interests and local initiatives is likely to continue. At the very least those who claim to accept the principle of community involvement should understand that there is a contradiction between what they profess and what they allow. A consistent effort is needed to ensure that the principle is not given only lip-service, but that it is well understood and that ways and means are found of translating it into suitable action.

A way to avoid conflict is to improve coordination between the various interests, which would include a means of ensuring that professional jealousy, often a threat to programmes in the field, is not allowed to hinder progress. It is a commonly held idea, requiring enormous effort to overcome, that an illiterate or non-professional person is unable to make a contribution to development.

The type of student admitted to an educational institution remains an additional problem. At present, with the high unemployment rates existing in many parts of the world, the candidate with useful family connections or political influence is often the one accepted for a training programme, in medicine, for example. A means of assessing the motivation and suitability of each

candidate must be devised. To ensure that candidates from disadvantaged groups are accepted by educational institutions a quota system may be necessary. A candidate who plans a career in another richer country after graduation will have little enthusiasm for a training programme that concentrates on local rural health problems. In developing countries health personnel are generally better educated than most of those among whom they work. They tend, therefore, to feel more at ease with the few privileged families than with the people of poor means and little or no formal education. In industrialized countries this is especially true of doctors, dentists, and pharmacists. Unless their training includes an analysis of the class structure of the population among whom they will work and a conscious "option for the poor", health personnel will find themselves responding to the far more articulate demands of the privileged classes, thus reinforcing the bias already present in most development efforts (Z. Chowdhury, personal communication, 1985).

Misconceptions regarding community involvement

The principle of community involvement is sometimes thought to be a means of manipulating the people; since it is essential to the success of the primary health care approach this misconception must be corrected. Many of the failures of the past are attributable to the control of so-called community programmes by government-appointed officials—sometimes resident in the community but, nevertheless, regarded as outsiders belonging to officialdom. For that reason a demand for an organizational chart for a community programme should be resisted. Once a structure has been established by a government it can quickly come to be seen as an extension of government control. To be acceptable, a programme must evolve from the bottom up and not be imposed on the community from above. It must be seen by the community to function successfully. A demand to make it conform to an imposed structure can impede its acceptance by the community it is intended to benefit.

Local expertise is often great but usually neglected, and the consistent failure of administrators to take local views and knowledge into account can have serious consequences. Sometimes local practice is criticized simply because it does not comply with regulations or follow established administrative procedures.

The community's capacity for organization

The local capacity for organization should not be underestimated. A statement to the effect that local people do not have much experience in managing participatory programmes should be regarded as suspect. It may be true that they do not have the same type of experience as an administration but what experience they do have derives from within their own culture and may be equally or more relevant. If the recognition of local culture and values is not to remain lip-service traditional expertise and knowledge must be taken into account. Experience that differs from that of another system is not necessarily worthless. Indeed, the failure of many community development programmes can be traced to neglecting to use local skills and experience.

A member of the community often has a much better idea of what needs to be done than an outsider. It is not lack of education that prevents action from being taken but rather a lack of financial and material resources. The poorer the community the greater the need for resources. This is not to deprecate education but it is not possible to be dogmatic about the exact nature of its importance in development.

A wider definition of the meaning of education may be necessary for community involvement. It may have to be interpreted as covering such factors as knowledge regarding organization, cooperative means of solving problems, and methods of acquiring information and skills, rather than sectorally segregated subject matter. The argument that illiteracy implies ignorance and blocks effective community involvement must be challenged. It is not unusual for an illiterate to show greater wisdom than a highly-qualified expert in matters relating to local daily life. It is not necessarily lack of knowledge that impedes progress but lack of assertiveness against the assurance of the professionally qualified.

Decentralization

As was explained above, decentralization is a prerequisite for effective community involvement and community leaders have the right, even the duty, to ask the administration for guidance and assistance in implementing plans. Yet all too often the administration resents such initiative and sees it as an attempt to take over their responsibilities. Often administrators complain that they do not know of a certain programme or have not been told

about it—they assume that they should have authorized it beforehand and supervised its execution.

The evaluation of community involvement

It is unusual when community involvement is being evaluated for serious consideration to be given to what the members of the community themselves have to say. Representatives experienced in community approaches are rarely invited to participate in conferences or seminars on programme evaluation. Outsiders insist that they know best what is good for a community. More attention, therefore, needs to be paid to the participation of the community in the evaluation process. The system of evaluation should stress accountability and a sense of responsibility not only on the part of the educational institution but also on the part of the community served. The judgement of the community on the benefits and disadvantages of community-based education should receive due consideration in programme evaluation. The methodology for the evaluation of programmes by the community may not yet be available, but as an approach it is of crucial importance warranting further study.

Experience has shown that there are at least two ways of avoiding the improper "use" of the community. The first way is to ensure that community-based education has a visible positive influence on both the provision of health services and the quality of care. For example, a programme may be located in an area where health care is not extended to all strata of the population or is nonexistent. An agreement with the health system on coverage and coordination may assist in instituting a programme in such an area (see section 4.2). In a reasonably well covered area it may be advisable to add a service not yet available but for which there is a demand (e.g., domiciliary care). In some areas where essential health services are lacking the student could be provided with essential drugs with which to prevent or treat common health problems. Funds would be needed for this purpose.

The second way is to identify the communities in need, on the basis of agreements with the central, regional, or local health authority and the community leaders, which will permit the educational institution to select the location of a community-based educational programme. Well-designed and well-structured surveys, agreed to by the providers of the health services, the community,

and the educational institution, aimed at determining health-related problems, may be of some assistance. A better knowledge of the issues attracting the community's interest may enable it to be motivated to become involved and ensure that the community-based learning activities carried out will be relevant to its health needs. A time limit is recommended for activities in a given community so that it is not "overused" unless there is evidence that both it and the health authorities agree the activities should continue.

Preparation of the selected sites[1]

To prepare the sites selected adequately, arrangements relating to the assignment of students must be made with the local authorities and community leaders. This will involve explanations of the educational institution's philosophy and objectives, the criteria used in assigning students to particular segments of the community, and, most important, the community's role as a partner in health manpower training and its own health development. Essential to social preparation is the integration of the students within the community. In some cases they live with local families selected by the community leaders. They explain to the assembled members of the community why they are there and take an active part in the daily activities of families and other groups.

In the least developed countries a rural family is unlikely to have the space or means to accommodate a student. The alternative would often be for the student to stay with a more prosperous family where it would be hard to avoid developing a typical disregard of the educated for the poor, not to mention incurring an obligation to give something in return for hospitality. It would be far better for the student to be given funds to rent accommodation in the locality or to be allowed to live at the nearest health centre.

Once the community agrees to accept students, joint action becomes possible: in the collection and analysis of health data; in determining health problems and, after establishing priorities, planning for their amelioration; in implementing plans with the help of official and voluntary bodies; and in evaluating the community's involvement and the outcome of activities. Continuity is ensured by outgoing groups of students informing the community, health service staff, and the incoming groups of students of continuing

[1] See the recommended criteria for the selection of sites for community-based learning activities outlined in section 5.11.

activities and planned programmes. At all stages community organization is a basic requirement. When it is weak it needs to be strengthened before embarking on a programme. Community leadership can be built up on existing groups, such as women's, youth, or religious groups, or new groups can be organized. At intervals teachers should visit the community to supervise the students, maintain contact with community leaders, and ensure coordination with health service staff. As a general rule, health service staff should serve as field instructors and work with the faculty. The practice of appointing staff to joint health service/educational system posts is strongly recommended. Health service staff employed as field instructors should be given academic status and have prospects of promotion.

In conclusion, the successful implementation of a community-based educational programme demands the involvement of the community in planning, decision-making, problem-solving, and evaluation.

Community involvement: an example in Nigeria[1]

An institutional objective of the Medical School, University of Ilorin, Nigeria, established in September 1977, is to prepare physicians for community service by making them sensitive to the needs of the population, which is largely rural and suburban, without prejudice to the tertiary health care needed by those referred to specialist hospitals. Another objective is to ensure community involvement in the development of community-based educational programmes. To achieve those two objectives the Community-Based Experience and Service Programme (COBES) was introduced and training activities were established in defined communities, known as COBES sites.

Shao is a relatively large village of peasant farmers, with a population of approximately 5500, situated about 20 km from Ilorin, the capital of Kwara State, which is in the middle belt of Nigeria. Children under 15 years of age make up 42% of the population. Christians and Muslims live there together harmoniously. The village is one of the four sites developed for the COBES programme in 1980. At first, the people of Shao were hostile to the COBES programme because their political views differed from those of the federal government then in power, to which the University of Ilorin belonged. It took two years before a community health committee was established during the 1980/81 academic year. The Community Health Committee has the following functions:

(1) To organize a cross-section of the community (e.g., traditional community leaders, influential groups, teachers, traditional health practitioners, and other people interested in community development) into a cohesive group for the purpose of determining the health problems and types of disease in the community; the problems associated with health care delivery (formal,

[1] From a paper by Dr O.K. Alausa.

foreign-based, and traditional); the priority health needs of the community; and possible solutions to those problems based on community action.

(2) To promote the health of the community by (*a*) stimulating interest in community health and health-related programmes motivated by the community and applying the essential components of primary health care; (*b*) educating the community in health related matters and other aspects of socioeconomic development; and (*c*) seeking and encouraging intersectoral cooperation.

The inaugural meeting of the Community Health Committee was held in January 1981, with the following participants:

the Oba of Shao (*Chairman*)
traditional health practitioners
three other traditional chiefs who are also traditional health practitioners
the leaders of the two major political parties
the pastor of the church
the imam of the mosque
two representatives of each of the eight wards
the head teacher of the only primary school
the principal of the only, newly established, secondary school
the secretary to the local government of the area in which Shao is located (*Secretary*)
six members of the Medical School—two staff and four students
two community health officers-in-training at the teaching hospital
two nurses from the health centre
two traditional birth attendants

The Committee has continued to meet each month. Discussions focus on:

(*a*) Events occurring in the community, including marriages, births, and deaths and their causes, and the availability of community and social services—schools, health centres, water supply, roads, etc.
(*b*) COBES programme reports, objectives, plans, and execution; logistic problems and solutions; supervision; and evaluation.
(*c*) The accommodation of the students and social interaction.

The Committee has virtually taken over management of the COBES programme in the village and surrounding area. The people have become very friendly with the students and teaching staff. Many activities are being carried out successfully. They include regular immunization against the six common diseases, nutritional rehabilitation (with cooking demonstrations); health education in relation to onchocerciasis and malaria, the most common communicable diseases; the provision of well water and pit latrines and proper refuse disposal facilities; school health services; and 24-hour coverage at the health centre through an efficient two-way referral system between the centre and the teaching hospital at Ilorin. The students' educational activities are progressing satisfactorily and the objectives of the programme are being achieved. The community invites the staff and students of the Medical School to all important social events in the village. The nursing staff have completely integrated their activities with those of the nursing staff of the government health centre. The Community Health Committee

has become the prototype of community interaction with COBES at other Medical School COBES sites.

The following important factors have contributed to the programme's success: the community's involvement in the educational activities, from planning to implementation, supervision, and evaluation of both activities and the students; the agreement of the Medical School authorities and the students to give priority to finding solutions to health and social problems identified by the community; the important positions on the Community Health Committee given to the community leaders; the involvement of the women's organization through the traditional birth attendants who propagate information from the Committee among the other village women; the involvement of traditional health practitioners, who would otherwise be ready to oppose health personnel because of a lack of understanding and their instinct for professional survival; the involvement of the heads of the two schools who help to disseminate information from the COBES programme among teachers and students; a determination on the part of all concerned to succeed; acceptance by the people, after their earlier antagonism, of realistic and attainable objectives from which they can readily and directly benefit; the acceptance of the COBES programme by both the state and the local government and the integration of its health service functions within the functions of the community health centre.

4.5 The health team[1]

A health team is a group of persons who share a common health goal and common objectives, determined by community needs and towards the achievement of which each member of the team contributes in accordance with her/his competence and skills, and respecting the functions of the others (*61*). The manner and degree of such coordination vary and have to be determined by each community according to its needs and resources. There is no universally acceptable composition of the health team as the requirements will vary in accordance with the public health problem in question.

The real environment of the community is almost certainly the type of environment that can best provide the right learning conditions for future members of a health team. Community-based education can therefore encourage acceptance of the idea of working through a health team by (*a*) training the students to be members of a team, i.e., forming students in different health professions into a team, confronting them with selected health problems, and having each one perform, under supervision, the tasks demanded of his or

[1] EDITORIAL NOTE: see also *Study for analysing multiprofessional training programmes and defining strategies for team training*. Report of a meeting held in Copenhagen from 5 to 7 March 1986, organized by the WHO Regional Office for Europe (issued as EURO document No. ICP/HMD 136(S).

her respective profession, and (*b*) using members of functioning health teams as instructors, under the guidance of supervisors, with suitable rewards if necessary.

Community health problems are so complex that not one category of health worker can manage them alone. Working in the community provides the future members of health teams with the oppurtunity to assess their roles and responsibilities in relation to those of the other prospective team members. On completion of each community activity the students should be asked to list the health problems they encountered and the approaches they used, say what contributions they themselves, the other students in the team, and the community made, and describe how the combined effort contributed to the results achieved. They should also be asked to describe any flaws they found while engaged in the combined effort and to analyse how the flaws affected the activity and its outcome. In that way, they can gain a true idea of team-work and acquire skills in coordination; in leadership, for example, and in the division of labour and the recognition of each other's needs.

The benefits of team training in the community can be summarized as follows:

(*a*) It helps each member of the health team to understand the functions of the others.

(*b*) It allows the expertise available to be used to the best advantage.

(*c*) It reduces duplication and contradiction in curriculum design.

(*d*) It increases communication among teachers, among teachers and learners, and among teachers, learners, and health service staff.

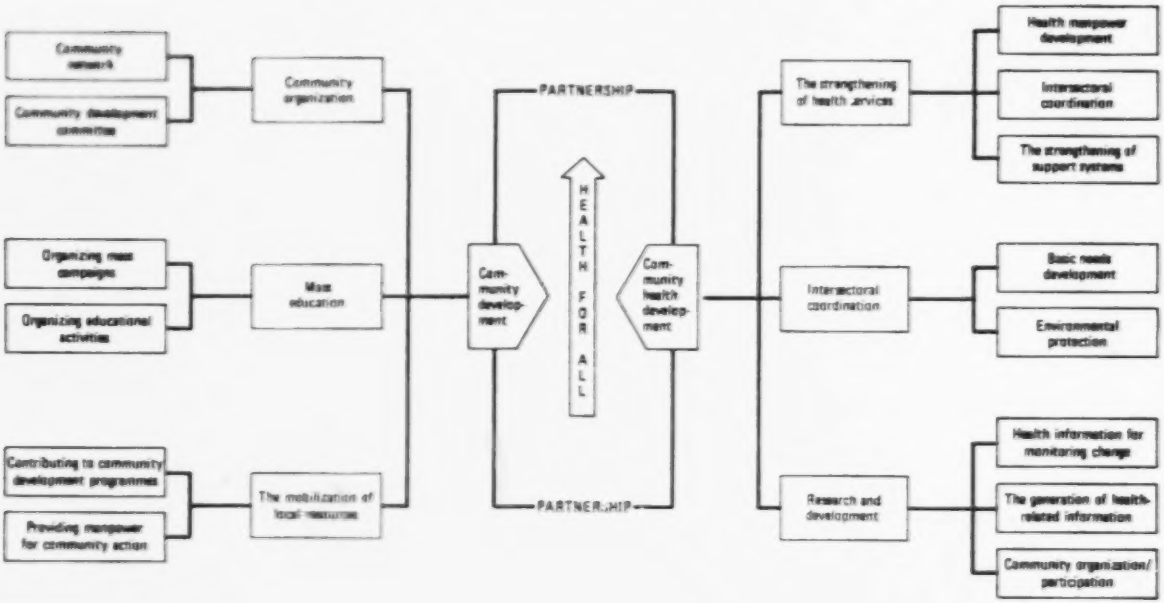
(*e*) It permits immediate feedback from the site of the learning activity to the educational institution.

(*f*) It permits the collective assessment, allocation, and utilization of educational resources according to needs and not according to chance or individual bias.

However, although the concept of the health team approach may be well understood and appreciated in theory, other much more influential factors may inhibit its application in practice. Such factors, related mostly to health manpower management—the employment, deployment, retention, support given to, and training of health personnel—should be studied and their effects measured.

Fig. 2 shows the factors influencing the relationship between a community's health and its general development and the complexity

Fig. 2. The interrelationship of factors influencing health and overall community development



of the relationship in that many linkages have to be taken into account and made to work. It also demonstrates that optimum development can be achieved only through team-work.

Without community-based education the health team approach could remain a theory and never be applied. Without active and sound team-work community-based education itself is likely to be less efficient. In order to use community-based education as a means of promoting the health team approach, the following preparations should be made by the educational institution:

(*a*) Obtain the support of decision-makers for the health team approach.

(*b*) Define clear targets, derived from community problems, so that the team members will understand their common goals, comprehend and trust each other, and work together harmoniously.

(*c*) Define the role and responsibilities of each prospective team member so that the health professions are adequately represented in carrying out the tasks necessary for the solution of the health problems.

(*d*) Ensure effective communication within and among teams.

(*e*) Provide democratic and technically competent leadership composed, as far as possible, of members of the community who can serve as role models.

(*f*) Ensure that each team member is professionally competent, has the required linguistic abilities, and understands the cultural patterns and needs of the community.

(*g*) Ensure that the workload for each team member is reasonable, allocating time and funds, if necessary, to each task.

(*h*) Ensure that each team member retains a sense of responsibility by allowing joint active participation in planning and decision-making.

(*i*) Ensure that professional competence is kept up to date or enhanced by providing adequate training in the team approach to health care.

(*j*) Ensure the continuous evaluation of the team's performance and achievements.

(*k*) Encourage competition among teams, with rewards for achievements, so that the team spirit is reinforced, as well as a sense of initiative, responsibility, and association with the community-based educational programme's aims.

The health team approach in Nepal[1]

At Dhankuta, a hilly district in eastern Nepal, auxiliary health workers are trained to provide basic health care to rural communities. The training lasts for one academic year and community-based learning activities are carried out throughout the period. During 20 weeks of field work the students learn how to combine theory with practice in actual health care. With their teachers they are assigned for eight weeks to health posts where they practise various skills under the supervision of the teachers and the staff of the health post.

A multidisciplinary team of teachers and health workers, (e.g., health educators, nurses, physicians, laboratory technicians, auxiliary nurse midwives, pharmacists, health assistants, and sanitarians) is involved in the training programme. This has been very effective in affording the students the opportunity to use the health team approach while assuming their responsibilities in a community setting.

Auxiliary nurse midwife students, another category of health personnel, also spend much of their training period at health posts, where they work in teams with the trainee auxiliary health workers and health assistants whose educational level is higher.

Medical students and community nurses are also assigned to health posts at the end of their courses during their community practice work.

Another approach is to place students from a specific health profession to work with teams of health workers rather than to form teams of different categories of students. In that way the student acquires the competence to work in a team. Ideally, both types of experience should be provided as a means of expanding learning opportunities.

The fact that educational objectives based on professional competency have been achieved is due in great part to the curriculum developed especially for auxiliary health workers and auxiliary nurse/midwives which is conducive to a multiprofessional team approach. The members of the health teams share common educational objectives and help in enabling the students to acquire the desired competence. It is, however, often difficult to place the students in the same community at the same time, because of the distances between campus and community, lack of funds to pay for the extra travel involved, and the differing durations of the programmes.

The types of programme described are essential for preparing health workers to provide basic health care in rural communities, at as high a level of competency as possible, within the constraints of limited resources and rural conditions. In an endeavor to overcome the constraints, a field education support unit has been established. All the programmes are new and opportunities for further interaction and improvement are being explored.

The experience in Nepal is an example of the team approach to course design and the formulation of course objectives, to teaching how to work as a team in the community, and, to a smaller extent, to students learning together as a team.

[1] From a paper prepared by Mrs A. Bhattacharya.

4.6 The competency-based learning approach

Community-based education is a means of training health personnel who are responsive to the community's health needs. It should take place in an environment that as closely as possible resembles that in which the student will work after graduation. A suitable balance among a variety of educational settings will help the student to gain an acceptable level of competence. The balance is more easily achieved if the student's prospective professional tasks are explicitly described in the form of a professional profile. Professional profiles detail the functions, activities, and tasks (from general to specific) of each type of health worker. At its most general level contents of the profile describe the same professional functions for almost all health workers. The graduates of programmes designed on the basis of the health services and manpower development concept (*19*) should be able to:

- —respond to the health needs and expressed demands of the community by working with the community, in order to stimulate self-care and a healthy life-style;
- —educate both the community and their co-workers;
- —solve, or stimulate action for the solution of, both individual and community health problems;
- —direct their own and community efforts towards the promotion of health and the prevention of disease, unnecessary suffering, disability, and avoidable death;
- —work as members of health teams and with other health teams;
- —act as the leaders of such teams when necessary;
- —continue to learn throughout their working experience, in order to maintain and improve personal competence.

The professional functions are summarized as follows (*23*):[1]

- —provision of preventive care;
- —provision of curative care;
- —health education of the population;
- —management of services;
- —participation in health team work;
- —training other members of the health team;
- —participation in research activities;

[1] Not listed in order of importance.

—collaboration with other sectors involved in community development;
—finding solutions to unfamiliar problems;
—self-assessment and the continuous development of personal professional skills.

By segmenting the general functions into more specific professional tasks the work of the general practitioner may be differentiated from that of the nurse, specialist, medical assistant, dental surgeon, or other health professional. The list of tasks then serves to determine the setting most suitable for acquiring the desired competency.

There is no point in sending students to work in a community to acquire the competence they could acquire in a simple office, or at home, such as how to interpret an X-ray film, confirm a diagnosis on the basis of a laboratory report, or write a health education article for a newspaper. However, they cannot become competent in supervising the vaccination of school children, for example, if they have not worked with the health workers at a school. Nor can they learn the advantages and limitations of home care to enable them to plan the rehabilitation of a patient handicapped by injury if they have not visited a home in the community.

Health workers must also come to understand ethical values and develop social skills so that they are conscious of their moral responsibility to protect the community from unethical and incompetent actions. Social skills include perception, judgement, empathy, ability to communicate, and creativity for adequate decision-making, and can best be learnt in the community.

The elaboration of professional profiles as a prerequisite for curriculum construction was also advocated by the International Federation of Medical Students' Associations but relatively few educational institutions for health personnel have successfully done so (*24*, *27*). Not only do the teaching staff have to agree on the definitions contained in the professional profiles but also the administrators of the health services, educators, the consumers of health care, graduates, and students, on the basis of an analysis of epidemiological data and of tasks, health manpower projections, sociological surveys, work studies and other relevant data. It is an illuminating but time-consuming exercise and most institutions are not yet sufficiently convinced of its value to invest the necessary time and manpower. The problem-based learning/solving approach may

be a possible alternative (see section 4.7) as a basis for planning and implementing a community-based educational programme.

Competency-based learning activities in the Philippines[1]

Community-based learning activities are included in the curriculum for each category of health worker at the Institute of Health Sciences, University of the Philippines, Manila. The scope and depth of each activity vary according to the competence to be acquired.

The objective of involving the students in community-based learning activities is to help them to develop the competence described in their professional profiles which will enable them to function as providers of health care and to participate in community health development. The communities to which the students are assigned are situated in poor rural areas each with a population of 800 or more. In general, the problems encountered arise from poor environmental sanitation, inadequate health care facilities, malnutrition, very large families, and a range of communicable diseases.

The competence required of each category of health worker, as described in the professional profile, and the tasks carried out during community-based learning activities are shown below.

Competence	Task
Village health worker	
Establish a working relationship with the community.	Discuss interests and concerns informally with groups in the community.
Construct a community profile.	Observe different sociocultural patterns and practices. Conduct a survey of the patterns and practices of the community. Collect related health data.
Have basic skills in the handling of group discussions.	Present the data gathered to community assemblies. Conduct informal group sessions to promote nutrition, environmental sanitation, and maternal and child health.
Participate in the delivery of primary health care in the community.	Assist at prenatal clinics, home deliveries, and well-baby clinics.
Midwife	
Formulate a community health development plan jointly with representatives of all the sectors concerned.	Review the community profile made by the village health worker. Gather additional information, including data on health and disease patterns. Prepare a situational analysis on the basis of the information gathered, to determine possible problem areas.

[1] From a paper prepared by Mrs A. F. Ocana.

Competence	Task
Strengthen community participation in the assessment, planning, implementation, and evaluation of community programmes.	Review the situational analysis and determine priority problems with the community. Review with the leaders the status of existing community organizations and programmes. Solicit the involvement of other sectors in the development of an integrated plan for the community.
Manage a village health centre.	Establish a routine for the management of selected simple or common cases with the agreement of the local health officer. Determine the resources needed by the clinic. Keep records of clinic consultations and referrals. Inform health officials of critical events.
Nurse practitioner[1]	
Develop health care plans for the families most in need.	Identify the families most in need through reviewing the records or on referral from others. Assess the capability of families to manage their health problems. Plan their health care needs with the families and health team members. Visit the families most in need at home to provide care and develop their potential for self-care.
Manage selected cases.	Perform a complete physical and psychological assessment of the patient. On the basis of the assessment, present a report to the municipal health officer (physician) with suggestions on how to manage the case. These tasks are repeated until the municipal health officer is satisfied that the student can manage simple cases alone.
Conduct epidemiological investigations.	Monitor the number of patients coming for consultation and how often they come. Report any increasing trends. Organize the health team members for the location of cases and contacts. Analyse the nature of epidemic curves and identify risk groups. Mobilize the community for preventive or control measures.
Medical practitioner	
Develop a scheme for strengthening the monitoring of, and support for, community primary health care activities for utilization by district health planners.	Study health and disease patterns in a community in terms of their relationship to time, place of occurrence, and sociocultural patterns. Identify disease risk groups. Study disease levels throughout the community and mechanisms for health action. On the basis of the study, plan the allocation of resources so that they are available when needed.

[1] The nurse practioner serves in areas where there is no medical practitioner.

The prospective medical practitioners then apply all the community-based and problem-solving skills learnt in a more extensive and comprehensive manner over a period of one year. Still under the supervision of health service personnel and

faculty visiting the community, they work in rotation in communities, municipal health centres, and district hospitals. An important added benefit is the opportunity to achieve a higher level of managerial skill. Tasks during this period include the elaboration of methods for rationalizing the allocation of resources in support of community activities and the implementation of other innovative approaches in community health development.

4.7 Problem-based learning

Problem-based learning is a process whereby a student learns by utilizing a problem as a stimulus to discover the information needed to understand the problem and hasten its solution (*4*).

Community-based education facilitates problem-based learning, since it provides suitable conditions for determining and controlling a community's health problems. However, those without experience of community-based education will need to be assured that patients will be protected from not yet fully competent trainee health workers.

The health problems forming the basis of learning/teaching must be well delineated. They can be viewed differently by those who are affected (particular groups of the population), those responsible for determining them (health providers, teachers, or students), and those who must solve them (health care workers and those participating in intersectoral action for health). The providers usually lack resources and have to assign priorities. Problem-based learning must, therefore, be based on the problems that affect most members of the community and thus have priority.

The kinds of problem that should be selected are those that help the students to acquire the competence, both skills and scientific knowledge, needed to practise. They should, therefore, be typical of those the students will eventually have to face when they graduate and start to practise.

Community-based education enriches problem-based learning since it provides learning materials that stimulate active motivated learning because of their reality and relevance to the community. Problem-oriented medical records can be used to define problems clearly (*57*).

The problems selected should be those that enable all types of health worker to become competent in assessing patients and determining whether they need to be referred to a higher level of preventive or curative care. They should also be those that can be

solved in practice. Otherwise, the students, and even the teachers and health service personnel, will become frustrated.

Most teachers use the term *health problems* for the clinical problems. The importance of community diagnosis rather than individual diagnosis must be stressed and included in the educational programme. Very few teachers of health sciences understand or appreciate the value of community diagnosis. Simulated health problems, or paper problems, should also relate to the community and not only to individual clinical cases. Community health problems must be dealt with comprehensively, taking into consideration preventive, public health, and physical and social environmental factors. In this way it can be ensured that it is a priority health problem that is used as the community-based educational learning activity.

As each problem is approached, one step towards finding a solution will invariably be to determine the tasks that are necessary to solve it. As different problems are encountered, several lists of tasks will be prepared and together they will form part of the professional profile for the type of health worker concerned. The difficulty is to ensure that the sum of these professional actions derived from such a problem-solving approach covers all the professional tasks the given type of health worker should be able to perform.

Professional profiles built up in this way then form an essential basis for curricular planning. Other components of the profile (in addition to the tasks involved in solving the priority health problems) can be determined from the information obtained by debriefing consecutive cohorts of graduates. The process of building up professional profiles may take several years, however, and as an interim measure a list of *general functions* (such as the example on page 45) should be used to monitor both the learning/teaching activities and the students' performance assessment mechanism so that no function is overlooked.

Another type of community-based educational learning activity could be derived from an epidemiological approach to studying the natural history of health problems (*58*). The students are given responsibility, under supervision, for groups of patients and families in a given community, to help them to determine and manage their own health problems, i.e., to live constructively and die more comfortably without imposing intolerable burdens on themselves and others. The students examine first the demand for health care

by the community as a whole (e.g., 10 000 people), then by those among them who are seeking care in an ambulatory setting and those who are admitted to a hospital at least once (e.g., 1000 people), and finally by those who are admitted to a university tertiary care hospital (e.g., 100 people).[1] In that way the types of training setting are determined proportionately by the types of health problem confronting a given community. With such a community problem-based approach the selection of settings would correspond to the natural history of the health problems. The students automatically learn in an integrated way, basic principles, a scientific approach, and proper attitudes and the teachers ensure intellectual discipline, provide supervision, and assess the students' performances. The teachers are the students' role models as well as their supervisors in their attempts to resolve problems.

Experience has shown that students obtain a great deal of information while helping to provide health services in a community but make very little use of it in planning community health development activities. The information is recorded during community surveys and home visits or while attending to patients in clinics. Information gathered over even as short a period as three months can be analysed to determine health/disease patterns, e.g., geographical location or risk groups, so that, after learning how to manage individual cases, the students can go on to acquire the higher managerial capabilities that are useful in planning for community health development, such as how to determine community risk groups and priority areas. Thus, community-based educational activities go beyond the provision of health care to include also the conversion of data derived from providing care into valuable basic information for planning community health-development activities. Participatory research, involving the community in a dialogue (*17*), facilitates the community health care process.

Teachers involved in community-based education should themselves have studied in a programme that included problem-based learning, in order to make the best role models.

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[1] In a study of the distribution of demand for medical care by a typical population in one year (1970) it was found that out of a total population at risk of 1000, an average of 720 people visited a physician in an ambulatory setting at least once, 100 people were admitted to a hospital at least once, and only ten were admitted to a university hospital at least once (*58*).

A group of students' view of problem-based learning in the community[1]

During our second one-month posting to a community, in April 1979, the community of Dekala, a hamlet situated some 35 km west of Babana, called for our help. The problem was thought to be a worm infection. This was an ideal learning situation for us. In dealing with the problem we could, at the same time, reach one of our objectives, which was to understand the transmission cycles of some parasitic diseases.

Before going to the village we learnt about the transmission cycle of guineaworm infection (source, vector, host) from the readings our teachers had assigned to us.

In this particular case, all of the 109 cases reported were located at Dekala. Fifty-two males and 57 females were found to be infected. Thus, the disease did not seem to distinguish between the sexes. Among those infected the ages ranged from two to 60 years but only three children under five years were affected. We attributed this to the fact that the very young were not yet sent to fetch water and therefore did not come into close contact with the source of infection.

Some members of the community believed that the infection had been introduced from a neighbouring hamlet through intermarriage. From further inquiries we learnt that there were two families, one the family of the leader of the community, who were not affected. These two families boiled their drinking water. The village leader had a transistor radio on which he listened, from time to time, to broadcast health lessons. That was how he learnt never to drink unboiled or untreated water. We wondered whether his power as leader of the community could be used to change the hazardous habits of the people. We argued further that the presence of medical professionals from a university would uphold the credibility of his education if he delivered a speech to the people emphasizing the need to boil water for drinking.

The only source of water at Dekala was a dirty pond. Microscopic examination of a specimen of the water showed that the causative agent of the disease, the cyclops, was present. We mounted our microscope on the bonnet of our vehicle and encouraged the people to look at the organism responsible for their suffering. Now they were even better able to understand their leader's warning never to wade in the contaminated water of the pond.

The site of infection was usually on the lower extremities but sometimes on the breasts of the females and the scrotum of the males. Many patients presented with superinfected wounds where the worm had found its way out. We cleansed the lesions and, in some cases, administered antibiotics to control secondary infections.

At the end of the day one of the teachers demonstrated how a tiny drop of disinfectant sufficed to kill the cyclops. If this measure could be applied at regular two–three month intervals, and if all infected people could be treated successfully, or the worm was absorbed or extruded, dissemination of the disease could be stopped. We instructed the village teacher to keep disinfecting the water and left a bottle of disinfectant with him.

From this example of problem-based learning four observations can be made. Firstly, learning can be made much easier if the student is confronted with the

[1] Adapted from a report written by a group of first-year medical students at the University of Ilorin, Ilorin, Nigeria (*7, 8*).

health problems of a community. Secondly, knowledge, in this case of parasitology and epidemiology, can be acquired and integrated in the context of preventive and curative action. Thirdly, a community-based programme can provide unique opportunities for determining real health problems in relation to the physical environment and the people's habits. Fourthly, the community-based education approach motivates students and increases their learning potential.

4.8 Performance assessment

Community-based education should be examined as a factor influencing the validity of the instruments used to assess the performance of students. While there are clear advantages in ensuring that performace in actual health care practice is assessed there are also practical difficulties. Before discussing methods of assessment it must be said unequivocally that students will tend to pay little attention to the primary health care aspects of a curriculum unless an assessment of their competency in applying the concept is a requirement for graduation and certification.

Since students may work in the community at different periods throughout their studies, different forms of assessment should relate to the work during each period. A basic principle in the education of health personnel is that growing responsibility accompanies growing competency. The variety and complexity of assessment instruments, including self-assessment, should vary accordingly, while always ensuring a high degree of validity.

How to assess whether the desired level of competence has been reached during each community-based learning activity is an important question. Experience shows that what the students learn is strongly influenced by the types of assessment instrument used for examinations. It is essential to assess the quality of student performance, and the assessment instruments used must be constructed in relation to the purposes of community-oriented education. The results expected from the students' activities or output (health indicators) should be used as criteria of acceptable performance whenever they are within the student's control and when no external factors can influence them. On the contrary, when external factors can influence the results, the process, the actual activities, should be assessed (see the form on page 55). The immediate problem is that still there are too few assessment instruments and criteria for optimum performance in a community setting available and those that are available are deficient in quality (*29*).

A community-based educational activity, especially in particular areas of the health sciences, must involve multidisciplinary learning/teaching, with several teachers. The instruments for assessing the competence of the students should be constructed by the same teachers though not all of them need to be present at the assessment session. The assessment team should include some of the health service workers (or community members) participating in the learning/teaching activities. Whenever it is appropriate and feasible assessment should take place where the activities are being carried out so that the conditions for performance assessment are the same as those for learning. Once professional skills that can be acquired only from community-based educational activities are identified, performance can be assessed on the basis of completion of the corresponding tasks. The tasks must be known before assessment instruments can be designed.

Multidisciplinary teams of teachers must be trained to use a variety of instruments for assessing performance. The best evaluators are likely to be those who have themselves studied in community-based educational programmes. Peer review—i.e., the students assessing each other's performance—is an often neglected

Performance assessment during community-based learning activities[1]

From the second to the fifth year of their studies students are posted twice a year to rural communities for one-month periods.

Small groups of, on average, seven students, each accompanied by two or three teachers, are posted to five different places, two in the outskirts of the city of Ilorin and three in rural areas of Kwara State. Each group estimates the size of the community to which it is assigned, draws a simple map of the area, determines the most important health problems (e.g., malnutrition or an infectious disease), determines contributory factors (e.g., inadequate means of sewage disposal or contaminated water sources), collects, analyses, and interprets data, and at the end of each posting writes a report.

The evaluation form used to assess the performance of the students after each posting is shown on the next page.

The fact that the teachers are constantly with the students ensures a continuing exchange of ideas and information, and the correction of errors. The assessment, which uses the five-point Likert scale, enables not only the quality of output to be explored (14—Assessment of the student's written report) but also the process by which the objectives of the programme have been attained (1–13) and the quality of interaction with members of the community (5).

[1] Adapted from reference *8*.

Assessment of student performance

Student's name .....
Group leader .....
(staff)
Date of posting .....
Place of posting .....

1 unsatisfactory	2	3 satisfactory	4	5 distinction

Please mark X in the appropriate box below

	Mid-posting	End of posting
1. Appearance and general behaviour	☐☐☐☐☐	☐☐☐☐☐
2. Punctuality	☐☐☐☐☐	☐☐☐☐☐
3. Attitude towards the COBES programme	☐☐☐☐☐	☐☐☐☐☐
4. Relationship to other students	☐☐☐☐☐	☐☐☐☐☐
5. Relationship to people in the community	☐☐☐☐☐	☐☐☐☐☐
6. Collection of data	☐☐☐☐☐	☐☐☐☐☐
7. Presentation of data	☐☐☐☐☐	☐☐☐☐☐
8. Interpretation of data	☐☐☐☐☐	☐☐☐☐☐
9. Ability to relate findings to solving community health problems	☐☐☐☐☐	☐☐☐☐☐
10. Student's critique of his own approach to the problems	☐☐☐☐☐	☐☐☐☐☐
11. Ability to suggest new approaches to the solution of problems	☐☐☐☐☐	☐☐☐☐☐
12. Contribution to group discussion	☐☐☐☐☐	☐☐☐☐☐
13. Performance in crisis situation	☐☐☐☐☐	☐☐☐☐☐
14. Assessment of the student's written report	☐☐☐☐☐	☐☐☐☐☐
	TOTAL SCORE	☐

Remarks by the group leader .....

Student's comments on his own performance. (The group leader is to discuss the performance with the student concerned, at mid-posting and end-of-posting, and enter here relevant points which might come out of the discussion)

Date ..... Signature of the group leader .....

means of performance assessment but should be regarded as essential.

In developing countries the student is often placed in a very active position in the community. While this can be challenging, it raises the issue of whether society should be protected from the attentions of health workers who are not yet professionally competent. It is well known that many of the institutions from which health personnel graduate and become licensed to practise do not have valid performance assessment systems that ensure that their graduates are

competent in all respects. Teachers tolerate this situation but they also express the fear that community-based learning activities could constitute a danger for society. In most instances, however, the expression of fear far exceeds the risk.

The risk lies in how complicated cases needing immediate secondary or tertiary care are managed. An examination of community morbidity patterns shows a predominance of common illnesses that can be satisfactorily managed by middle-level health workers without the attention of physicians. Some studies (*58*) show that barely 1% of the population need tertiary care, to which they must be referred because of the absence at the primary care level of sufficiently precise diagnostic facilities and modalities of management. Health workers must be competent to make these referrals when necessary and should be evaluated accordingly.

A rational approach would be to determine whether anxiety over a specific community's exposure to unqualified and possibly not fully competent health workers is justified and to take remedial action if necessary. The students must be reassured by having direct access to supervisors, whether to regional supervisors or an emergency service, and this may be life-saving. It is important that all health workers should learn to diagnose simple, common diseases and be able to refer patients to secondary or tertiary care. Good secondary and tertiary care support must, therefore, be guaranteed.

Observations in the community reveal that students vary in their willingness to play active roles and in their attitudes to community-based learning activities. While this calls for a closer study of educational content and processes, the community's influence on student attitudes is also of significance. A receptive community enhances a proper attitude on the part of the student. To be receptive the community needs to be involved. Clearly, some degree of community participation is essential. It is also evident that assessment instruments are needed to measure the quality of the students' active involvement. Obligatory assessment should ensure the required quality.

4.9 Recapitulation of the action to be taken in implementing a community-based educational programme

The action required is summarized below in tabular form.

Issues and problems	Action
Coordination between the health system and the educational system (section 4.2)	
1. How can the degree of coordination be assessed?	Consider organizational patterns, the degree of centralization, each system's priorities, and resource allocation. Reassess priorities to ensure that faculty and health service resources will be available.
2. How can linkages be developed between those responsible for health manpower development and those responsible for the health services:	
(*a*) in areas with insufficient or no health service coverage?	Enter into agreements that stipulate how the educational institution can assist in providing health care, including, if necessary, the service-oriented faculty supervision of students in the community.
(*b*) in areas where one person is responsible for health manpower development and health services activities?	Ensure cooperation from subordinates working in each system and avoid competition for resources by fostering attitudes of partnership and professional pride in achieving a common goal, and recognizing and rewarding the services provided.
(c) in areas where information on primary health care is incomplete?	Ensure that there is agreement between the education and health service systems on what type of information the students and teachers will need.
The intersectoral approach (section 4.3)	
3. What can the directors of programmes do when there are no intersectoral linkages?	Prepare integrated policy guidelines and follow-up mechanisms on the basis of interministerial consultation and coordination. Establish community development councils. Advocate the principle of coordination to the individuals who are responsible for intersectoral action by means of diplomatic initiative, encouragement, attempts to lower barriers and a positive attitude. Develop close links with a university.

Issues and problems	Action
Community involvement (section 4.4)	
4. How can community cooperation be enlisted?	Place community-based educational programmes in areas with poor health service coverage, so that their effect is visible.
	Ask local health authorities to help in identifying and determining target communities.
	Take time to ascertain the interests of the chosen communities and what they feel are their health problems.
	Limit the duration of each student's assignment to any community whose resources might become overused.
5. How can active community involvement in community-based educational activities be solicitated and maintained?	Select the communities that provide an environment consistent with the educational goals of the programme, i.e., allow the integration of theory and practice, the delivery of comprehensive health care, the use of appropriate resources, technology, and reliable documentation, and provide for continuing education.
	Prepare the selected communities "socially".
	Involve members of the community in the collection and analysis of health data.
	Evaluate community participation.
	Ensure that outgoing groups of students inform incoming groups of students, community members, and health service staff of continuing activities and planned programmes.
	Encourage the participation of community members by using a friendly approach and providing rewards, and help them to identify with the programme.
6. What must be done when the existing community organization is weak?	Build up the organization before the programme begins.
	Arrange for faculty from the educational institution to make regular site visits, to provide supervision and reinforce official contact with the community.
	See whether health service staff can be used as instructors.

Issues and problems	Action
	Set up reward and promotion systems for the community instructors.
	Build up leadership capabilities e.g., through women's, youth, and church groups, and enrol the help of the existing community leaders.
The health-team (section 4.5)	
7. How can the idea of health teams be promoted?	Train the students to be future members of health teams.
	Use health professionals who are members of existing health teams as instructors, giving them appropriate guidance and rewards.
	See that the students evaluate their experience as members of health teams in the community.
	Define common goals to facilitate understanding, trust, and harmonious interaction among team members.
	Ensure effective communication within and among teams.
	Obtain the support of decision-makers for the health team approach.
	Ensure that team members are professionally competent and train them adequately in the team approach to health care.
	Continuously evaluate the performance and achievements of each team.
	Understand the interrelationship of factors influencing health and overall community development and the many organizational linkages that must be made to work, so that those responsible for health manpower development can maximize the use of the health team approach in the community.
	Train educational institution faculty as role models, and arrange for the community members to act as team coordinators.
	Encourage competition between teams, with rewards for achievements, so that the team spirit is reinforced, and a sense of initiative, responsibility, and association with the programme's aims engendered.

Issues and problems	Action
The competency-based learning approach (section 4.6)	
8. How does the educational institution ensure the balance of experience the students need to become competent enough for professional practice?	Draw up lists of specific tasks for each profession, using information from all available sources, and from them derive learning objectives.
	Ensure that each community-based learning activity corresponds to the planned learning objectives.
	Choose the educational field sites most appropriate for the activities and use them efficiently.
	Ensure that the community-based learning activities start at the beginning of the programme and continue throughout.
	Use information obtained from the students on completion of their assignment to the community and during self-assessment to modify, add to, or discontinue learning activities.
	Ensure that learning activities consist, as much as possible, of acutal work for the community.
Problem-based learning (section 4.7)	
9. How can problem-based learning be facilitated?	Determine the problems, taking different points of view into account.
10. How are problems identified and selected?	Seek out the problems of priority in relation to community health needs and select those that can be solved.
	Take into consideration preventive, public health, and physical and social environmental factors to ensure that each problem is of priority in that it relates to the community as a whole.
Performance assessment (section 4.8)	
11. Does the community need to be protected against students who are not yet fully competent to practise?	Involve health service workers and the community in an appraisal of the risks.
	Encourage ethical values.
	Provide adequate supervision, make sure both the health service workers and the students are fully aware of how to use the referral system, and if necessary strengthen the referral system.

Issues and problems	Action
	Help the students to recognize their own limitations through encouraging them in self-evaluation, e.g., by arranging videotape sessions.
12. Since students work at different levels of competence in the community, how can their performance be evaluated?	Ensure that the students are given greater responsibilities as their competence increases.
13. What students learn and how they learn it are influenced by the assessment instruments used for examinations. Instruments for assessing competence in a community-oriented setting are lacking. What action should therefore be taken?	Use peer reviews as methods of performance assessment. Continue efforts to construct assessment-instruments for performance evaluation as a basis for certification.
14. Who should carry out assessment?	Establish a multidisciplinary team of teachers and health service personnel, preferably teachers who have themselves been educated in a community-based educational programme, to assess the student's performance in the community.
15. Where should performance assessment take place?	Ensure that performance assessment takes place under the same conditions as the learning activities.

5. RECOMMENDATIONS ON HOW TO START A COMMUNITY-BASED EDUCATIONAL PROGRAMME

The following recommendations on the action to be taken to initiate a community-based educational programme are addressed to the staff members of educational institutions—directors, deans, or teachers. They would have to be modified if they were to be used by students, members of the community, or administrators outside the institution. The sequence of action can vary and some steps may be taken concurrently. It is easier for a new, than for an existing, institution to start a community-based educational programme. At existing institutions it may be simpler to add a separate track, totally

community-oriented, than to try to introduce community-based education throughout the school.[1]

5.1 Justify the proposal to start a community-based educational programme at a given institution

Collect and analyse the data necessary to justify the proposal (see Annex 3). Prepare a short statement of reasons and general objectives. In the statement it should be explained that community-based education is not an end in itself but a means of improving the health status of the community by training health workers to have a positive attitude to change and the competence to implement it.

5.2 Obtain information on how to realize a community-based educational programme and adapt it to the local situation

Because a major adjustment of learning activities is entailed, valid reasons, supported by reliable data, must exist for introducing a community-based educational programme, or for modifying a programme significantly once it has started. Innovation for its own sake is a luxury few can afford. Informed decision-making calls for pertinent, valid, and timely data.

The relevance of the data depends on the decisions to be taken and the institutional and community contexts they reflect. Determining the educational objectives the students are expected to attain, on the basis of an analysis of performance in work settings, is an example of how relevant information can be a critical determinant in making educational decisions. The information used in decision-making should be as valid as circumstances permit. However, it should not be more detailed than is necessary to make a reasonable decision. It must also be available to the decision-makers at the time it is needed. Otherwise it will be of little use and the opportunities for making informed decisions will have been missed.

Various ways of using information to make decisions on community-based education are shown in Annex 3. The type of

[1] A conference on *Parallel innovative tracks in established health science institutions: a strategy for disseminating change* was organized by the Network of Community-oriented Educational Institutions for Health Sciences, with the collaboration of the University of New Mexico, USA, and WHO in October 1986.

information needed changes at the successive stages of decision-making. The data needed to decide whether community-based education should be introduced are not the same as the data needed to select the sites for community-based educational programmes. The questions that need to be answered during the planning, implementation, and evaluation of a community-based educational programme are illustrated in Fig. 1–3 of Annex 3.

The information needed either exists in writing, for example in the present report, or in articles cited in the references, or may be obtained from individuals experienced in community-based education, such as the staff of the institutions that are members of the Network of Community-oriented Educational Institutions for Health Sciences or other institutions for the education of health personnel.[1] Once the information is obtained it must be analysed and assessed to see whether it is applicable to the situation existing in the community selected. Direct application, without modification, could result in failure as community-based education is considerably influenced by the sociocultural characteristics of the recipient community (see section 5.11). It should thereafter be possible to establish a network of knowledgeable individuals who could be consulted during implementation of the programme.

5.3 Obtain political commitment and the authority of supervisors to proceed

In some cases the authority of supervisors to start a community-based educational programme may be indispensable. In others action will be needed at a higher level only to overcome an obstacle. It is essential to obtain the political commitment necessary for change. In some instances it has proved valuable for the people who are to be involved in community-based education to attend planning workshops (*25*, *52*).

5.4 Ask a number of colleagues to serve as members of a core group for the initiation and implementation of the programme

As soon as the decision is made to introduce community-based education, committed faculty members should be asked to form a core group for the initiation and implementation of the programme. They should be those who can withdraw from the routine types of

[1] For examples of such institutions see Annexes 1 and 2.

teaching activity in order to devise learning activities comprising research and service within the community. The presence of such a core group and its example as a driving force within the educational institution should encourage the rest of the faculty, the students, and the community in a sense of commitment.

5.5 Review the recommendations presented here to seek out the obstacles that might impede progress, taking local circumstances into consideration

The core group should seek out the obstacles to progress by using a brainstorming technique or by asking individual members to prepare lists of obstacles for comparison within the group. The final list should be used as the basis for devising means of overcoming obstacles.

5.6 Establish a continuing teacher-training programme

Unless there is a mechanism to familiarize the staff of the institution with the general principles of educational science and the specificity of community-based education they will not have the necessary educational competence. In their insecurity they will quickly regress to the traditional teacher-centred methods with which they are familiar and which make them feel safer.

It is essential that the teaching staff should understand the process of community participation and be aware of the difficulties likely to arise, connected, for example, with the selection of settings in which to place the students and the training of their supervisors. Teachers must also be encouraged to regard research as a continuing process for understanding community dynamics and not as a rigid experimental model.

5.7 Improve the administration of the educational institution

At all educational institutions the administrative functions assigned to the dean, director, and teaching staff are additional to their teaching, service, and research responsibilities. The success of any attempt at change, such as the introduction of a community-based educational programme, may be jeopardized if no effort is made to improve all administrative processes and render them more cost-effective. It is therefore essential to involve the administrative

staff in the organization of the programme from the beginning, so that they too feel fully committed.

5.8 Compile professional profiles of the types of health personnel the institution expects to train

Professional training objectives must be defined or redefined in relation to the functions of each type of health worker the institution undertakes to train. With the objectives defined in this way, the community-based learning activities through which competence can be acquired will be easier to determine.

5.9 Construct instruments for assessing the performance of the students

How the students' performance is to be evaluated must be decided at an early stage, since it will influence how other aspects of the programme are planned. The assessment of competence in applying the concept of primary health care must be a requirement for certification, not only to protect the community from the ministrations of incompetent health personnel but also to ensure that the students do not disregard the primary health care orientation of the curriculum. Assessment instruments must therefore be constructed to measure how the students perform each of the professional tasks, including those for which competence can be acquired through community-based learning activities.

5.10 Set up a mechanism for selecting students suitable for community-based education

An educational programme enables the students to acquire the intellectual, practical, and even some of the communication, skills expected from the particular health profession in which they are being trained, whether it is that of traditional birth attendant, nurse, or physician. Attempts have been made to construct selection instruments for measuring the prerequisite level of the student entering a programme. Experience indicates, however, that it is extremely difficult to alter ethical values, such as sense of responsibility and honesty, within the relatively short duration of a training programme (several months to several years). Consequently, it is often advised that only those students who

already express acceptable attitudes should be selected for community-based education. The difficulty, so far not overcome, is to construct instruments that can measure such attitudes with an acceptable level of validity. Selection procedures have been described (*6*). It is clear that before accreditation committees can be expected to accept innovative mechanisms for selection, which take into account such requirements as acceptable attitudes, creative advances are needed.

5.11 Select the sites for community-based learning activities

The following requirements should be used as criteria in the selection of sites for community-based learning activities:

(*a*) The principles of comprehensive health care—promotion, prevention, curative care, and rehabilitation—can be demonstrated in practice, with emphasis on primary health care.

(*b*) It can be shown in practice that effective and efficient health care can be provided using simple techniques and procedures.

(*c*) A comprehensive insight is possible into health and ill-health and the influence on health of socioeconomic, cultural, psychological, and physical environmental factors.

(*d*) Suitable conditions exist for the integration or interrelation of theory and practice (e.g., basic sciences, clinical care, community health care).

(*e*) Reliable documentation and information, on health status and health care can be used for learning/teaching purposes.

(*f*) Health service staff who can teach, sufficient space for meetings, accommodation for the students, and transport are available.

(*g*) A system of continuing education exists and its impact on personal and career development is demonstrated.

5.12 Approach the communities selected as sites for community-based learning activities

It is evident that there is no simple way to ensure community involvement. It is a complex issue and whatever is to be done is influenced by the sociocultural environment. Experience in other countries must be thoroughly analysed and assessed to decide what part of it can be applied in the local context. Adapt, not adopt, must be the motto. It is essential to obtain maximum community

involvement if the health situation and the prosperity of the population are to evolve.

5.13 Introduce improvements at the sites for community-based learning activities

Conditions in some of the communities selected may need to be improved, not only for purposes of learning but to raise the quality of life and health care. Equipment such as books, tables, chairs, and laboratory instruments could be moved from the educational institution to the community, while remaining the responsibility of the staff of the institution. There is no need to wait for model sites before placing students. On the contrary, the presence and activities of the students should stimulate change. The improvements can be introduced gradually with the students, guided by the teachers, helping to identify the conditions that need to be improved. The material requirements should be ascertained, and a budget proposal prepared. As far as possible the necessary funds should be reallocated from the institution's own budget.

5.14 Train the students to make the best use of community-based education

Community-based learning should take place throughout the curriculum, which means that students should be assigned to activities in the community from the beginning. It may be argued that when they start their studies students are not adequately prepared to meet the unusual demands of a community-based programme. However, if they are familiar with the wide range of community-based learning activities available (see Annex 4) programme administrators should be able to select for the students the types of activity they can start in the first week of their studies. The gradual increase in the complexity of community-based learning activities should be accompanied by different forms of preparation, such as reading, participation in group discussions, and role playing. Senior experienced students can be of considerable help to newly entering students.

5.15 Ascertain which categories of student other than those studying the health sciences will benefit from joint training

If students of the health sciences are to learn the concepts and skills of team work within the health system for the benefit of community development plans must be made in advance. The community health problems of most concern must be determined so that multidisciplinary teams of health science students can endeavour to solve them. These teams of medical, sanitary engineering, nursing, and other students will establish relationships with other future health workers and with students of architecture, economics, sociology, demography, and agronomy.

The educational institutions for these other disciplines must be consulted to determine to what extent joint activities are possible. At the same time plans can be made for the collection of data on which to base informed joint decision-making.

5.16 Plan the sequence of the community-based learning activities

Once the communities where the students can acquire different types of professional competence are selected, the sequence and duration of their assignments, and how they are to be rotated, should be decided. This must be done so that logistic support, such as transport and the assignment of supervisors, can be planned, the communities informed, and the complexity of the learning activities progressively increased. Appropriate linkages with the rest of the curriculum, of which the community-based learning activities are a part, must be designed. The community-based learning activities will be more effective if the preceding and subsequent learning experiences also take community aspects into account. At new institutions and at institutions where there is a separate track such linkages will be relatively easy to establish. At conventional institutions it can be a formidable task to prevent community-based learning activities from becoming isolated. The closer the involvement of the educational administrators in the original design the more chance there is of having a successful programme.

If an epidemiological approach to studying the natural history of health problems is used (see section 4.7), the sequence of the learning activities will correspond to events taking place in the community at the time the student is assigned. Actual events are the main influence on how both the community and its health care system function. If supervisors and teachers can determine which health

care problems are of most concern to the community, they will be well prepared for their roles. This implies that the teachers must involve the health service staff in planning the learning activities that will help the students to solve the health problems they encounter. At the same time this provides the opportunity to train, retrain, or enhance the capabilities of the health services staff who will also supervise the students.

Both the teachers and the health services staff need training in the selection and design of suitable learning activities, which may vary from community diagnosis on the basis of a community survey to planning domiciliary long-term care. Some activities may be of direct benefit to the community, e.g., investigating the causes of an epidemic and initiating control measures or designing and executing a health education programme. A list of tasks that could serve as a basis for community-based learning activities is given in Annex 4. It is by no means exhaustive but may be of use during the training of those who are planning community-based educational programmes.

5.17 Ensure that there is a built-in programme evaluation mechanism

To ensure the success of a community-based educational programme there must, from the beginning, be a means of collecting the data needed to assess whether implementation is progressing according to plan and whether, if unforeseen events are occurring, they are benefiting or impeding the programme. To measure the programme's progress, the situation when it commenced must have been assessed. Ways of establishing a proper information base for purposes of systematic evaluation, at the outset and during the course of a programme, are shown in Annex 3.

6. RECOMMENDATIONS ON HOW TO FOSTER AN UNDERSTANDING OF THE CONCEPT OF COMMUNITY-BASED EDUCATION

It is recommended that the information contained in this report be widely disseminated. In many countries newspaper articles are an excellent way of informing the public. By reading this report press agencies and newspaper editors may be stimulated to publish articles

on community-based education. Approaches to members of the health professions and leaders in the health field will require the use of different media, such as professional journals and newsletters, though articles in the former may be read mainly by those who are already aware of the advantages of community-based education. The cooperation of nongovernmental organizations, national medical and nursing associations, and medical and nursing students' associations should also be sought in fostering an understanding of the concept and helping to initiate programmes. The translation of material into local languages, its regional adaptation, and its adaptation for specific professional disciplines should also receive attention.

The Network of Community-oriented Educational Institutions for Health Sciences is well-placed to foster an understanding of the concept. So far, the emphasis in network activities has been on schools of medicine; this report may help to extend their scope to the other health professions, particularly those that are fundamental to the primary health care approach.

Consumer associations, trade unions, and other organizations that are concerned with raising the quality of health care form another group to which community-based education should be of interest, because it and consumer-related action programmes can easily be combined.

The deans of educational institutions, other faculty members, political leaders, and influential writers can all take the lead in introducing the concept.

A variety of means must be used to stimulate effective discussion of the community-based education concept, such as workshops, both regional and national. Experience has shown that workshops are particularly successful when they can attract the right types of participant, e.g., leaders from various interested sectors, teachers, and community representatives. The courses in public health and related subjects organized in several countries could be equally useful for propagating the concept. Exhibitions and video and slide shows may help to quicken public interest.

An additional important means of arousing interest would be the dissemination of reliable information, derived from research data and analytical surveys and descriptions of existing programmes, that illustrate the advantages and disadvantages of community-based education.

7. RECOMMENDATIONS TO THE WORLD HEALTH ORGANIZATION

As part of its function as the directing and coordinating authority on international health work, WHO is in an ideal position to foster the concept and encourage the implementation of community-based educational programmes. The Study Group consequently recommended that WHO should:

(1) Refer to community-based education and its importance for primary health care in official statements in order to stimulate wider discussion of the subject.

(2) Ensure wide distribution of written information on community-based education—the present report in particular—and encourage Member States, through the WHO Country Representatives, to adapt it to local conditions and to translate it into the local language.

(3) Cooperate with Member States in the initiation and evaluation of community-based educational programmes and, through the WHO Collaborating Centres for Teacher Training, in the training of staff.

(4) Encourage the exchange of information and of staff between community-based educational programmes.

(5) Introduce the concept of community-based education into all WHO programmes with an educational component.

(6) Facilitate the coordination of community-based educational programmes and UNESCO study service programme activities.

(7) Make the community-based education concept known to donor agencies with a view to obtaining extrabudgetary resources.

(8) Seek the support of members of the WHO Expert Advisory Panels and other experts in health services education for community-based education.

(9) Propose that community-based education should be considered as a possible topic for the Technical Discussions during a future World Health Assembly. This would create a unique opportunity for the exchange of experience and at the same time stimulate Member States to consider how it could contribute to health service development.

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ANNEXES

Annex 1

ANALYSIS OF THE TENDENCIES AT TEN INSTITUTIONS IN APPLYING IMPORTANT EDUCATIONAL CONCEPTS[1]

The extent to which ten institutions, all members of the Network of Community-oriented Educational Institutions for Health Sciences, were considered to be dealing with issues related to community-based education was demonstrated in a recent comparative study.[2] The table opposite shows that all ten institutions were committed to the philosophy of community-oriented education, nine used the principle of problem-based learning, nine provided for valid performance assessment, and seven had competency-based learning programmes. Six were coordinating their educational programmes with the national health services and six were applying the health team concept. Three were involving the community and one had established intersectoral linkages.

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[1] Names of the institutions involved (the findings are given anonymously in the table):
Faculty of Medicine, University of Newcastle, Newcastle, New South Wales, Australia
University Centre for Health Sciences, University of Cameroon, Yaounde, Cameroon
Faculty of Health Sciences, McMaster University, Hamilton, Ontario, Canada
Faculty of Health Sciences, Ben Gurion University of the Negev, Beersheba, Israel
Division of Biological Sciences and Health, Autonomous Metropolitan University—Xochimilco, Mexico City, Mexico
Institute of Medicine, Tribhuvan University, Kathmandu, Nepal
Medical Faculty, Limburg National University, Maastricht, Netherlands
Health Sciences Center, College of Medicine, University of the Philippines System, Manila, Philippines
College of Human Medicine (Upper Peninsula Medical Education Program), Michigan State University, East Lansing, MI, United States of America
School of Medicine, University of New Mexico, Albuquerque, NM, United States of America (primary care curriculum)

All these institutions are members of the Network of Community-Oriented Educational Institutions for Health Sciences. The secretariat of the Network is located at the Faculty of Medicine, Limburg National University, P.O. Box 616, 6200 Maastricht, Netherlands.

[2] RICHARDS, R.W. ET AL. *Innovative schools for health*. Geneva, World Health Organization (in press).

Note for Table opposite

[a] These two concepts form the essential basis of community-based education.

Concept	Institution									
	1	2	3	4	5	6	7	8	9	10
Commitment to the philosophy of community-oriented education by emphasizing community content	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞
The use of problem-based learning	⊞	⊞	⊞	⊞	–	⊞	⊞	⊞	⊞	⊞
Provision for valid performance assessment	⊞	⊞	⊞	⊞	⊞	⊞	⊞	⊞	–	⊞
A balanced distribution of learning activities between primary, secondary, and tertiary care settings[a]	⊞	–	⊞	⊞	⊞	⊞	⊞	⊞	–	⊞
The distribution of community-based learning activities throughout the curriculum[a]	⊞	⊞	⊞	⊞	⊞	⊞	–	–	⊞	–
The use of competency-based learning	⊞	⊞	⊞	⊞	⊞	⊞	○	⊞	○	–
Coordination between the educational programme and the health services	⊞	⊞	⊞	–	⊞	⊞	⊞	–	–	–
The formation of workers into health teams	⊞	⊞	⊞	⊞	⊞	–	–	–	⊞	–
The involvement of the community in managing the educational process	⊞	⊞	–	○	–	–	⊞	–	–	–
The establishment of intersectoral linkages	⊞	○	–	○	–	–	–	–	○	–

⊞ positive tendency ⊟ negative tendency ⊙ no information

Annex 2

A QUANTITATIVE ANALYSIS OF EDUCATIONAL ACTIVITIES

The tabulation below indicates percentage of time devoted to different educational activities at 15 institutions, 14 of which belong to the Network of Community-oriented Educational Institutions for Health Science.*

Educational activity	Range	Institution														
		11	4	2	10	12	13	1	8	14	15	3	16	17	18	19
Community-based learning	10 to 38	20	11	25	16	38	14	40	20	12	11	14	10	15	10	2
Problem-based learning	8 to 35	35	8	16	40		11	17	*	10	7	8	10	7	0	0
Individual self-directed learning	5 to 44	10	44	16		–	16	5	25	22	16	9	10	7	0	0
Tertiary hospital-based learning (clinical ward, out-patient or emergency work)	17 to 44	20	25	17	44	24	45	29	25	25	22	39	29	42	60	45
Laboratory and practical work (other than community-based, or hospital-based learning	0 to 15	5	9	4	0	14	2		0	7	13	3	12	15	5	8
Attendance at lectures (discussions, seminars, or small groups)	0 to 28	10	4	22	0	13	5	26	30	24	32	27	28	14	25	45

Notes for page opposite

[a] Names of the institutions involved (the findings are given anonymously in the table):

Faculty of Health Sciences, McMaster University, Hamilton, Ontario, Canada
Faculty of Medicine, Suez Canal University, Ismailia, Egypt
Faculty of Health Sciences, Ben Gurion University of the Negev, Beersheba, Israel
School of Medical Sciences, Science University of Malaysia, Penang, Malaysia
Division of Biological Sciences and Health, Autonomous Metropolitan University —Xochimilco, Mexico City, Mexico
Medical Faculty, Limburg National University, Maastricht, Netherlands
Faculty of Health Sciences, University of Ife, Ile-Ife, Nigeria
Faculty of Health Sciences, University of Ilorin, Ilorin, Nigeria
Health Sciences Center, College of Medicine, University of the Philippines System, Manila, Philippines
Faculty of Medicine, University of Gezira, Wad Medani, Sudan
School of Medicine, Mercer University, Macon, GA, United States of America
School of Medicine, Wayne State University, Detroit, MI, United States of America
School of Medicine, University of New Mexico, Albuquerque, NM, United States of America (conventional curriculum)
School of Medicine, University of New Mexico, Albuquerque, NM, United States of America (primary care curriculum)
School of Medicine, Southern Illinois University, Springfield, OH, United States of America

With the exception of the School of Medicine, Wayne State University, Detroit, all these institutions are members of the Network of Community-oriented Educational Institutions for Health Sciences.

The secretariat of the Network is located at the Faculty of Medicine, Limburg National University, P.O. Box 616, 6200 Maastricht, Netherlands.

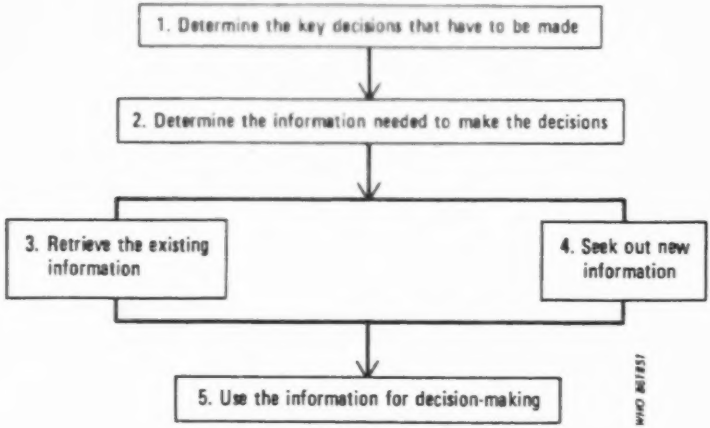
[b] In this institution virtually all the learning is problem-based.

Annex 3

COMMUNITY-BASED EDUCATION AND INFORMED DECISION-MAKING

The diagram below illustrates the process in decision-linked research.

Annex 3 Fig. 1. The decision-linked research process


1. Determine the key decisions that have to be made
2. Determine the information needed to make the decisions
3. Retrieve the existing information
4. Seek out new information
5. Use the information for decision-making

(1) Determine the key decisions that have to be made

The key decisions that have to be made in selected aspects of health manpower development are determined. As shown in Annex 3 Fig. 2, the decisions may relate to the formulation of community-based educational policy or its implementation.

(2) Determine the information needed

Those responsible for planning and those responsible for making decisions determine the information needed to make the right decisions. The types of decision to be made and the information needed vary according to the different stages of planning and implementation of the community-based educational programme (Annex 3 Fig. 2).

(3) Retrieve the existing information

The research findings and routinely collected data available are assessed to see if they provide the information needed. At times the nature of the information needed is such that the only source is the available literature.

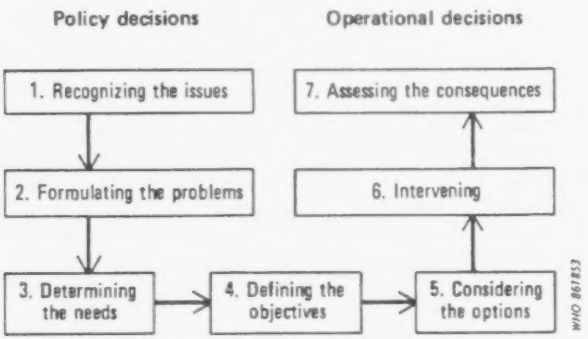
(4) Seek out new information

If there is not enough information available research activities designed to obtain more must be initiated.

(5) Use the information

Once sufficient information is available, it forms the basis for decision-making. Annex 3 Fig. 2 shows that information can be used as a basis for making decisions in varying ways depending on when, in the course of a community-based educational programme, it is introduced.

Annex 3 Fig. 2. A decision-making model



(1) Recognizing the issues

The results of research and other information can be used to make faculty members aware of the concept of community-based education and its importance in ensuring a balanced curriculum. In this way a climate of opinion is created and further action stimulated. By providing answers to underlying questions,

information can also help to clarify basic assumptions and better delineate the issues under consideration.

(2) Formulating the problems

Research may bring new elements to light. The magnitude of a problem can be estimated, its short- and long-term consequences assessed, and the causal factors traced. The information derived from research and used in this way by decision-makers may significantly change the way in which a problem is perceived and, consequently, the types of solution considered.

The experience of other educational institutions or groups may help in determining problems associated with the absence of an effective community-based education component in the curriculum. In addition, a survey among teachers, using the Delphi method, may help to clarify the educational institution's perception of the problem.[1]

(3) Determining the needs

Research can provide information that will assist in determining the needs to which a problem gives rise. For example, it may be necessary to ascertain both what would be the short- and long-term results of solving a particular problem and what would be the consequences of failing to solve it.

Studies of the degrees of competence the students must acquire to meet the performance standards of their future professions can provide a basis for determining their training needs (see pages 45–49 for the discussion on professional profiles). Analyses of their future functions and responsibilities can help to decide that a curriculum should include community-based education.

[1] The Delphi method involves a consultation by correspondence among experts or specialists to arrive at a consensus of opinion. First they are asked to convey their opinions on a clearly defined subject. Each expert is then sent a list of all the opinions expressed, without any indication of who expressed them, and asked to classify them in terms of importance, interest, and usefulness. The individual classifications are consolidated into a general classification and each expert is asked to indicate which opinions should be maintained. Finally, a revised list is distributed and the experts responsible for opinions that are not agreed to by the others are asked to reconsider them to see whether they can be modified or deleted. The same method may be used to assist a group of individuals in reaching relative consensus before an important meeting on either action or training.

(4) Defining the objectives

If information exists in appropriate detail on the resources available and the pertinent constraints, objectives that are both realistic and responsive to ascertained needs can more easily be defined.

Competency-based educational objectives related to community-based education can be derived from studying the professional profiles for given categories of health personnel. The objectives should reflect the competence the students are expected to acquire by the end of the programme.

(5) Considering the options

A literature search to learn of different approaches to implementing a community-based educational programme increases the range of forms and methods to be considered and helps in avoiding the difficulties experienced by other institutions in introducing similar programmes.

(6) Intervening

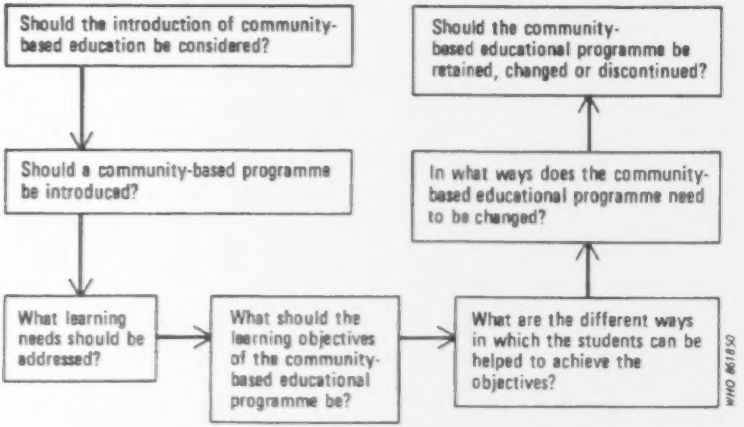
Information on how other programmes were introduced in comparable circumstances may help to avoid the mistakes and pitfalls that have characterized past efforts. Timely feedback on progress and the problems encountered can point to improvements and corrective measures during implementation. Pertinent information may be collected continuously as part of an institution's larger feedback system.

(7) Assessing the consequences

The evaluation of a programme requires that information should be obtained on the extent to which objectives have been met and the consequences have been as expected. The decision-makers use the information to assess the process and outcome of the programme and the implications for future action.

Evaluation of the short- and long-term effect of community-based education on the levels of competence reached by the students and on their attitudes will help in deciding whether community-based education should be retained in the curriculum and whether modification is necessary.

Annex 3 Fig. 3. Specific decisions on the planning, implementation and evaluation of a community-based educational programme


Should the introduction of community-based education be considered?
Should a community-based programme be introduced?
What learning needs should be addressed?
What should the learning objectives of the community-based educational programme be?
What are the different ways in which the students can be helped to achieve the objectives?
In what ways does the community-based educational programme need to be changed?
Should the community-based educational programme be retained, changed or discontinued?
WHO 861850

As illustrated in Annex 3 Fig. 1 *(1)–(4)* the decision-makers and planners agree together on the information needed to make the seven decisions shown in Annex 3 Fig. 3. If they work together from the beginning there is a much greater chance that the information collected will significantly influence the decisions.

The following examples are given of the type of information needed in planning a community-based educational programme.

(*a*) The global trends in health care to attain health for all through primary health care as they apply to the national health situation.

(*b*) The country's health care needs:

—the principal national health problems and, if they are different or specific, the health problems of the area in which the educational institution is located;

—the structure of the health delivery system and the types of health personnel (the providers) needed to serve in it;

—the implications of the need for collaboration and coordination between the health system (e.g., the ministry of health) and the educational institutions for health personnel;

—the Gross National Product, health expenditure per capita, and health indices (e.g., mortality and morbidity rates).

(*c*) The health profile of the country and the area where the educational institution is located, derived from published data, communication with the health authorities, and, if needed, initial health surveys.

(*d*) The local community's socioeconomic, demographic, cultural, and other characteristics.

(*e*) The methods used to make important decisions. The most influential groups in the universities, the local community, and the country.

(*f*) Local, national, and international sources of funding and how to exploit them.

(*g*) The health service facilities in the community, from hospitals to the smallest outposts, and the factories, schools, other institutions, and even isolated settlements, where training can take place. The types of personnel working in such establishments, their problems, worries, and aspirations, so that the faculty of the educational institution have a complete understanding of the staff with whom they will have to work.

Once under way the programme itself will become the prime source of data. The learning activities will contribute to both the students' and the teachers' knowledge of prevailing health problems and how to solve some of them. Through the learning activities the establishment of linkages with many kinds of community group will also be facilitated.

Annex 4

LIST OF PROFESSIONAL TASKS THAT MIGHT BE USED AS COMMUNITY-BASED LEARNING ACTIVITIES

The following list is by no means exhaustive but could be used in training programmes for those who are to plan learning activities for community-based education:

1. Survey the nutritional status of the children in the community by taking anthropometric measurements at the village school.
2. Prepare a map of the area in which the community-based educational programme is being carried out.
3. Investigate the multiple causes of an epidemic and devise and carry out a strategy to fight it.
4. Plan the family care at home of long-term or terminally ill patients.
5. Carry out a survey of the quality and price of the food in the local market taking seasonal variations into account.
6. Map out a water supply system and investigate how the water is kept clean.
7. Conduct an immunization campaign.
8. Plan and execute the measures necessary to make a simple estimate of the demographic characteristics of a defined community (i.e., the site of the community-based educational programme).
9. Identify community leaders and discuss with them the planning, execution, and promotion of health activities, taking into consideration the culture and socioeconomic conditions of the community.
10. Act as the intermediary in establishing a relationship between the patients and the community and educate the community in its pursuit of good health.
11. Build a pit latrine.
12. Demonstrate oral rehydration methods to mothers during home visits.
13. Ascertain through community visits the traditional customs, beliefs, and practices that benefit or harm health.
14. Determine community attitudes to traditional birth control practices.

15. Approach community leaders with a view to establishing the trust, confidence, and credibility that leads to acceptability.
16. Plan, coordinate, implement, and evaluate a community involvement and participation activity, such as a village health committee.
17. Improvise a means of improving the physical conditions of a patient at home, such as lifting his bed to provide him with better light.

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